The Mindfulness App Study For Weight Management, Weight related Behaviours, and Stress in University Students:
A Randomized Controlled Trial.

Lynnette Lyzwinski., Caffery, L., Bambling, M., Edirippulige, S.
Centre for Online Health and Department of Psychiatry,
School of Medicine University of Queensland
Queensland, Australia

Overview
- University students experience challenges with managing their weight known as the “Freshman 15” (Crombie et al; Vella-Zarb et al)
- The leading determinants include stress, an unhealthy diet, and low levels of physical activity (Crombie et al; Vadeboncoeur et al)
- Stress is highly prevalent in University students (APA)

Overview
- Stress has been linked with maladaptive weight related behaviors in students: binge eating before exams, craving unhealthy sweet food/comfort, and eating out (e.g. Kandiah et al; Sulkowski et al; Liu et al)
- Emerging research suggests that mindfulness may an effective intervention that targets these key issues (Olson et al; Oreilley et al; Chiesa et al)

Mindfulness
- A form of meditation defined by the father of MBSR programs Dr. Jon Kabat-Zinn as “Paying attention on purpose in the present moment non judgmentally” (Dr Jon Kabat-Zinn).
- Involves both formal meditation (body scan, sitting, walking meditation) and informal practice such as integrating awareness into one’s daily life (e.g. Stahl & Goldstein)
- Mindful Eating – Tuning in with all of our senses and eating slowly (Stahl &Goldstein)

A Novel Medium
- Research indicates that accessibility to various counseling services on campuses in limited (waiting lists) and many lack access to weight loss counseling (Nonotney et al; Lynch et al).
- Students have busy schedules
- mHealth as a novel medium which is healthcare on the go and has benefits of accessibility at any time and place (Lefebvre)

Developing a Student Tailored Mindfulness App
- Despite the amount of apps in the app store, research indicates that few are truly based on mindfulness and are both engaging and attractive for users (Mani et al)
- Evidence on effectiveness is lacking (Mani et al)
- Recent review found that there has not be a rigorous RCT that has tested whether a mindfulness app is effective for weight and lifestyle (Lyzwinski et al)
### Aims

- Develop a Student Tailored Mindfulness App (pre-trial exploratory focus group research was conducted and MBSR evidence based books and mindful eating books were consulted (e.g. Dr. Kabat-Zinn; Labee, E; Stahl & Goldstein; Albers S, etc))
- Test for effectiveness for stress, lifestyle, and weight in students
- Assess feasibility and acceptability

### My Student Mindfulness App

- Contains articles, videos, meditation audios, games, and a self-monitoring journal
- Teaches formal and informal practice from MBSR and mindful eating
- Bi-weekly mindfulness-based messages sent
- Student tailored with student themes throughout

### Methods

- 2 Arm Randomized Controlled Trial
- Intervention receives the app. Control group will receive an electronic diary consisting self-monitoring of diet and exercise along with a link to the WHO’s guidelines (WHO, 2017).
- 3 months in duration (2 measures baseline to follow-up)

### Recruitment

- UQ undergraduate students at the St Lucia and Herston campuses were recruited
- $20 dollar coffee voucher and iPad mini draw
- Inclusion: Healthy undergraduates ages 18-25 owning a smartphone who wish to lose weight, BMI of 20 and above
- Exclusion: serious history of a medical illness, eating disorder, BMI <20, <18 and >25 years

### Recruitment Strategies

- Posters and flyers on campus
- UQ Marketing and Communications
- (Facebook social media campaign and blog)
- Trial Facts online recruitment

### Sample Size

- No previous study conducted but sample size calculations were approximated based on past mHealth studies and mindfulness studies by a statistician
- A priori sample size estimates: 56 needed for 10% loss to follow-up for 80% power. 78 needed for 20%.
- Final recruited number 90
Allocation Concealment

• An independent statistician randomized participants to the app or to the control using a computer generated simple parallel sequence with a 1:1 ratio.

Measures

• Stress (PSS)
• Dietary intake (DSQ screener)
• Physical Activity (IPAC short)
• Mindfulness (Cognitive and Affective Mindfulness Questionnaire)
• Eating Behaviors (3 factor Eating Behavior Questionnaire)
• Mindful Eating (Mindful Eating Questionnaire)

Analyses

• ITT and per Protocol analyses
• ANCOVA using SPSS
• Acceptability based on survey (likert scale)
• Feasibility based on retention and adherence (questionnaire on how frequently they used the app)
• Post intervention focus groups

Discussion

• Novel contribution to the field
• If found effective may serve as a valuable health promotion tool for students

Abstract corrigendum note*

The Mindfulness App Study For Weight Management, Weight related Behaviours, and Stress in University Students: A Randomized Controlled Trial.

Lyzwinski, L.N 1-2 MPhil, PhD Candidate., Caffery, L 1 PhD, Bambling, M 2 PhD., Edirippulige, S 1 PhD.

Centre for Online Health, School of Medicine, University of Queensland, Woolloongabba, Queensland, Australia.  2. Department of Psychiatry, School of Medicine, University of Queensland, Herston. Queensland. Australia.

Background: University students are at risk gaining weight during their studies known as the “Freshman 15” [1]. The prevailing literature has linked stress with engagement in maladaptive weight related behaviors in university students [2]. Stress is highly prevalent in university students [3] and has been linked to weight gain and weight management [4]. Research suggests that mobile health interventions are effective for weight loss [5]. One novel medium for delivering a weight loss intervention is through mobile health. Research suggests that mobile health interventions are effective for weight loss [6]. Delivering a mindfulness-based intervention to students via a mobile medium may offer unique benefits including the possibility for students to learn mindfulness techniques at any time and place, something which is pertinent to them given their busy schedules.

Methods/Design: A two arm randomized controlled trial will be conducted at the University of Queensland St Lucia and Herston campuses. We will aim to recruit >50 and up to 115 participants. Students meeting eligibility criteria will be randomized to a mindfulness-based app or to a standard control group receiving an information leaflet on diet and physical activity guidelines. Changes assessed from baseline to follow-up at 3 months will be BMI, weight, dietary intake, physical activity, and stress. Feasibility and acceptability will also be assessed.

Discussion: This will be the first mobile mindfulness-based app trial in university students. If effective, this app intervention may hold potential for assisting students with managing key health issues pertinent to them.


Abstract corrigendum note

Discussion: This will be the first mobile mindfulness-based app trial in university students. If effective, this app intervention may hold potential for assisting students with managing key health issues pertinent to them.


