

## Concurrent Session 9A: Diet Intervention Studies/Obesity

### After 2 years, do obese adults change their usual eating frequency if you ask them to as part of a 6 month weight loss program?

MA Palmer<sup>1</sup>, S Capra<sup>2</sup>, SK Baines<sup>3</sup>

<sup>1</sup> School of Public Health, Griffith University, Gold Coast Q 4222 Australia

<sup>2</sup> University of Queensland, Brisbane Q 4072 Australia

<sup>3</sup> School of Health Sciences, University of Newcastle, Callaghan NSW 2308 Australia

**Background** – Best practice guidelines for weight management recommend regular eating. Despite 30 years of eating frequency (EF) research, few studies have examined whether prescribed EFs can be successfully maintained in the longer-term.

**Objective** – To examine whether specific EFs assigned as part of a weight loss program were actually adopted and maintained over a 2 year period.

**Design** – Obese (BMI >29-<45) adults (n=151, 108F) were randomly allocated to either 3 meals (3m) (n=46), 3 meals and 3 snacks (3m3s) (n=51) or 6 meals (6m) (n=54) for six months on standardised energy reduction diets of 5–7.5MJ (15%P±5%, 30%F±5%, 50%CHO±5%). Daily EF was assessed using semi-structured diet histories at baseline (n=147), one year (n=48) and two years (n=30). Eating occasion was defined as intake >50kJ consumed at least one hour after last previous ingestion. Repeated measures, intention to treat, General Linear Model analysis using last value carried forward were conducted.

**Outcomes** – Average EF at baseline was 4.7±0.1 (mean±se), ranged between 4.4–5.1 over two years, and did not change over time from baseline (P=0.647). EF increased within 3m3s and 6m groups and decreased within 3m group over one year by only 0.3 eating occasions and began to revert towards baseline EF by two years (F=4.66, P=0.003, df=3.14).

**Conclusion** – Results showed that assigned EFs were not adopted over the longer-term. If changing EF over the longer-term is challenging then use of EF as a longer-term weight management strategy is questionable, and guidelines should reflect this.

**Funding** – Australian Postgraduate Award and William Arnott Scholarship

---

### Effectiveness of web-based interventions in achieving weight loss and weight maintenance

M Neve<sup>1</sup>, PJ Morgan<sup>2</sup>, PR Jones<sup>3</sup>, CE Collins<sup>1</sup>

<sup>1</sup> School of Health Sciences, Faculty of Health, University of Newcastle,

<sup>2</sup> School of Education, Faculty of Education and Arts, University of Newcastle

<sup>3</sup> SP Health Co, North Sydney

**Background** – Web-based programs are a logical and feasible strategy to treat large numbers of overweight individuals. Preliminary studies suggest they may be an effective medium for weight loss and maintenance.

**Objective** – To evaluate the effectiveness of web-based interventions on weight loss and maintenance through a systematic review of randomised controlled trials (RCT).

**Design** – Eligible studies were identified from a comprehensive literature search from 1995 to April 2008. Studies were eligible for inclusion if: participants were aged ≥18 years with a body mass index ≥25, at least one study arm involved a web-based intervention with the primary aim of weight loss or maintenance, and a weight-related outcome was reported. Studies were assessed for inclusion and methodological quality by two independent reviewers.

**Outcomes** – 181 articles were identified in the literature search, of which 18 studies met the inclusion criteria.

A total of 5700 participants were included (77% women). There was a high level of heterogeneity among studies. Thirteen studies had the primary aim of achieving weight loss, and five focused on weight maintenance. Eight different treatment arms were represented (web-based (n=13), web-based and face-to-face (n=3), web-based and phone (n=1), web-based and email (n=1), web-based and motivational interviewing (n=1), control (n=5), face-to-face (n=5) and face-to-face and phone (n=1)). The intensity of the web-based interventions varied considerably. A meta-analysis of homogenous studies [ $I^2=0\%$  (P=0.76)] comparing weight change at post-intervention in two web-based interventions (education only vs. behavioural therapy) showed a significantly greater weight loss in the behavioural therapy group [WMD 2.0 (0.88, 3.13), Z=3.49 (P=0.0005)].

**Conclusion** – Comparison of studies to determine effectiveness of web-based interventions is difficult due to their diversity. The findings support the inclusion of behavioural therapy in web-based weight loss interventions.