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Effect of intermittent compared with continuous energy restriction on glycaemic control in patients with type 2 diabetes

Sharayah Carter, Peter Clifton*, Jennifer Keogh

University of South Australia, Adelaide, SA, Australia

Intermittent energy restriction (IER) is a popular alternative weight loss method, however, to date, there are no long-term trials in patients with type 2 diabetes (T2DM). The aim of this trial was to investigate the effects of IER compared with continuous energy restriction (CER) on glycaemic control and weight loss in patients with T2DM over 12-months. One hundred and thirty seven (61 ± 9 years) overweight or obese participants (BMI 36 ± 6 kg/m^2) with T2DM (HbA1c 7.3 ± 1.3%) were randomised to either a 2-day IER diet (2100–2500 kJ/d), during which participants followed their usual diet for the other 5 days, or a CER diet (5000–6270 kJ/d) followed daily for 12 months. Medications likely to cause hypoglycemia were reduced at baseline according to the medication management protocol. Of the 137 randomised participants, 97 participants completed the trial. Intention-to-treat analysis showed similar reductions in HbA1c (−0.5 ± 0.2% CER, −0.3 ± 0.1% IER; P = .65) with a between-group difference of 0.2% (90% CI, −0.2% to 0.5%) meeting the criteria for equivalence (±0.5%). Weight change was similar between groups (−5.0 ± 0.8 kg CER, −6.8 ± 0.8 kg IER; P = .25) with a between-group difference of −1.8 kg (90% CI, −3.7 kg to 0.07 kg) which did not meet the criteria for equivalence (±2.5 kg). There were no significant differences between groups in changes to body composition, final step count, fasting glucose, lipids or total medication effect score at 12 months. Effects did not differ using completers analysis. Hypoglycaemic or hyperglycaemic events in the first 2 weeks of treatment were similar between groups (3.2 ± 0.7 events CER, 4.9 ± 1.4 events IER; P = .28), affecting 35% of participants using either sulphonylureas and/or insulin. Intermittent energy restriction is an effective alternative diet strategy for HbA1c reduction comparable to CER in patients with T2DM and may be superior for weight loss.

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Effects of time-restricted feeding on mood, hunger and fatigue

Evelyn B. Parr[1,*], Brooke L. Devlin[1], Leah Brennan[2], John A. Hawley[1]

[1] *Mary MacKillop Institute for Health Research, Australian Catholic University, Melbourne, VIC, Australia*
[2] *School of Psychology, Australian Catholic University, Fitzroy, VIC, Australia*

Irregular feeding patterns have adverse effects on a variety of physiological and metabolic processes, independent of meal size and composition. Meal timing has a marked effect on health and can be manipulated to prevent and treat obesity as well as other metabolic disorders, especially in rodent models. Hunger and mood may influence dietary adherence and therefore the effects of dietary changes on psychological health should be considered. We tested the effects of time-restricted feeding (TRF) on measures of mood, hunger and fatigue.

Eleven sedentary males (age 38 ± 5 y; BMI: 32.1 ± 2.1 kg/m^2) completed two 5-day isoenergetic diet protocols in a randomised order, consuming three meals between 10:00–17:00 h (TRF; 8 h eating window) or between 07:00–21:00 h (unrestricted feeding, URF; 15 h). On the 5th day, participants attended the laboratory for 24 h and completed visual analogue scales hourly (07:00–22:00 h and 07:00 h) for hunger and fatigue and at four hourly intervals from 08:00 h for positive and negative mood states (Positive And Negative Affect Scale).

Ratings of hunger were altered across time (P < 0.001) and between conditions (interaction effect, P < 0.001), relative to the timing of meals. No differences in hunger between the conditions were found at 07:00 h on the fifth day or 24 h later. Ratings of fatigue increased across the day (P < 0.001) but not differently between conditions. Neither positive nor negative affect mood scores were changed by TRF. However, a main effect of order was observed, with increased negative affect scores in the second condition (P = 0.027); which may be due to the high study demands.

Short-term TRF had little effect on ratings of hunger, fatigue or mood states. TRF is a practical dietary approach and adherence to TRF over longer time periods may alter these psychological health and well-being factors.

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"It would definitely make you think twice, even after you've finished the drink, it's in your car, like the empty bottle, you'd look at it": Young adults' reactions to warning labels on the bottles of sugary drinks

Caroline Miller[1], Melanie Wakefield[2], Joanne Dono[1], Kerry Ettridge[1,*], John Coveney[3], Simone Pettigrew[4], Sarah Durkin[2], Gary Wittert[5], Jane Martin[6], David Roder[7]

[1] *Population Health Research Group, South Australian Health and Medical Research Institute (SAHMRI), Adelaide, SA, Australia*
[2] *Centre for Behavioural Research in Cancer, Cancer Council Victoria, Melbourne, Victoria, Australia*
[3] *Flinders University, Adelaide, SA, Australia*
[4] *School of Psychology, Curtin University, Perth, Western Australia, Australia*
[5] *University of Adelaide, Adelaide, SA, Australia*
[6] *Obesity Policy Coalition, Melbourne, Victoria, Australia*
[7] *Centre for Population Health Research, University of South Australia, Adelaide, SA, Australia*

Introduction: On-bottle warning labels are a viable policy option, as part of wider efforts to reduce sugary drink consumption in Australia and around the world. There is very little research into which messages will be most effective among regular consumers. The aim of this study was to explore young adults' reactions to four types of warning messages: health effects, nutritional information, exercise equivalents, and pictograms.

Method: 16 focus groups with young adults (aged 18–24 years; n = 104) were conducted across four Australian locations (Adelaide, Sydney, Perth and Ballarat). Groups were segmented by sex and socio-economic status. Mock warning labels were presented to each group for discussion. Results were thematically analysed.

Results: Participants were confused about the sugar content of drinks. Many did not know how to interpret nutritional and exercise information, or how to contextualise and apply it to their own circumstances. Also, while aware of potential health risks, many participants perceived them as not personally relevant. On-bottle warning labels were found to help young adult consumers to 'stop