

focuses on the first 2 phases (6wk) of data from participants enrolled between Jan 2015 and June 2016.

Methods: T20LP, a doctor supervised 3-phase program includes a loading day, 6wk of VLCD, and 3wk transition back to a normal dietary intake. The VLCD (500–520 calorie/day) eliminates dairy, wheat, corn, sugar, oil. T20LP includes daily weigh-ins and texting with the doctor, proprietary vitamin/mineral supplementation, daily journaling, and requires 3 in-person office visits (Initial baseline, Day 40 ± 3 d, Day 60 ± 3 d). The 20LP uses body composition analysis via Bioelectrical Impedance Analysis with bipolar foot electrodes to monitor participant progress. Baseline values are shown as median+/-SD.

Results: 351 men and 251 women completed the first 6wk of T20LP by July 31, 2016. Baseline age (51 ± 9.4), BMI (35.1 ± 6.1), comorbidities, history and prescription medications were typical of metabolic syndrome. 20LP-related health/safety events were mild- the majority were reductions in prescription medications, none required more than a consultation with a PCP. T20LP participants showed statistically significant and clinically meaningful reductions in body weight, BMI, body fat %, visceral fat, basal metabolic rate, and metabolic age; and increases in body water % as a whole and when stratified by gender.

Conclusions: The first 6 weeks of an intensive intervention in high risk older obese adults results in significant improvements in weight and metabolism-related measures without significant safety issues.

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Consumption of diets with low advanced glycation end products improves cardiometabolic outcomes: Meta-analysis of randomised controlled trials



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Background: Contradictory evidence exist on the impacts of consumption of diets with low advanced glycation end products (LAGE diets) on improving cardiometabolic profile with regards to the participants' diabetic status and amount of dietary AGEs.

Objective: To determine the effect of low and high AGE diets in reducing cardiometabolic risk.

Methods: Medline, Embase, Scopus, Cochrane, CINHALL and ProQuest databases were searched up to May, 2016. Risk of bias and data extraction was done by two independent reviewers. Meta-analysis using random effects model was employed.

Results: Seventeen RCTs comprising $n=560$ participants were included. LAGE diets were associated with decreased insulin resistance (MD $-1.3 \mu\text{mol}/\text{mU}/\text{l}$, 95% CI $-2.3, -0.2$) but no change in weight (MD -0.8 kg , 95% CI -4.4 to 2.9), fasting glucose (MD $-0.4 \text{ mg}/\text{dl}$, 95% CI $-2.4, 1.7$), 2-h glucose (MD $-7.2 \text{ mg}/\text{dl}$, 95% CI $-16.7, 2.3$), HbA1c (MD -0.01% , 95% CI $-0.09, 0.08$) and 2-h insulin levels (MD $0.3 \mu\text{U}/\text{ml}$, 95% CI $-1.5, 2.1$). Decrease in fasting insulin levels (MD -7 , 95% CI $-11.5, -2.5$) was observed only in patients with type 2 diabetes. Total cholesterol (MD $-8.5 \text{ mg}/\text{dl}$, 95% CI $-9.5, -7.4$) and low-density lipoprotein levels (MD $-2.4 \text{ mg}/\text{dl}$, 95% CI $-3.4, -1.3$) reduced after consumption of LAGE diets with no change in HDL cholesterol (MD -1.6 , 95% CI $-6.6, 3.3$) and blood pressure. Estimated glomerular filtration rate was improved after a consumption of LAGE diets. Tumour necrosis factor α , vascular cell adhesion protein-1, 8-isoprostane, leptin, and circulating AGEs were reduced in LAGE groups. In

addition, adiponectin and *sirtuin-1* were increased after a consumption of LAGE diets.

Conclusion: Diets low in AGEs improve cardiometabolic profile by reducing both traditional and non-traditional cardiovascular risk factors in individuals with or without diabetes. Hence restriction in dietary AGE content may be an effective strategy to decrease diabetes and cardiovascular risk.

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Decaffeinated green coffee extract improves cardiovascular function in diet-induced obese rats



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Decaffeinated coffee has become a major part of the market as people wish to avoid the behavioural changes associated with caffeine. While caffeine reduces body weight as well, it is important to determine whether decaffeinated coffee improves metabolic, cardiovascular and liver function. We have therefore given decaffeinated green coffee extract (DC) to fat rats as a chronic treatment to determine these changes. Rats were given a high-carbohydrate, high-fat diet to induce metabolic, cardiovascular and liver changes characteristic of human metabolic syndrome.

8–9 weeks old Wistar rats (335 ± 5 g, $n=48$) were divided into 4 groups of 12 rats: corn starch diet-fed rats; corn starch diet-fed rats given DC (5% in diet); high-carbohydrate, high-fat diet-fed rats and high-carbohydrate, high-fat diet-fed rats given DC (5% in diet). All rats were fed for 16 weeks. Treatment groups were given diets for first 8 weeks and the diets were supplemented with DC for the last 8 weeks.

DC reduced body weight in high-carbohydrate, high fat diet-fed rats while slightly reducing food intake compared to high-carbohydrate, high fat diet-fed. DC treatment reversed increase in systolic blood pressure and attenuated left ventricular diastolic stiffness while reducing collagen deposition and infiltration of inflammatory cells in the heart. DC treatment also improved liver inflammation and fat deposition in the liver. While DC improved cardiovascular function, it did not induce any changes in body fat.

These results suggest that decaffeinated green coffee improved obesity-related cardiovascular and liver changes in diet-induced obese rats.

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Growth patterns and rapid weight gain in infants of Chinese-born immigrant mothers compared with Australian-born mothers living in Victoria, Australia



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Background: The third largest immigrant group in Australia originate from China. School-aged children with Asian backgrounds have increased risk of overweight and obesity. Early growth patterns of these children may provide insights regarding prevention opportunities.

Aim: To compare infant growth from birth to 3.5 years of age and prevalence of rapid weight gain (RWG) in infants of Chinese-born mothers (CBM) and Australian-born mothers (ABM) living in Australia.

Methods: Anthropometric data were collected (birth, 2, 4, 8 weeks; 4, 8, 12, 18 months; 2, 3.5 years, $n=934$ for each group) from 16 Maternal and Child Health centres. Zscores (bmi-for-age (zbmi), weight-for-age (zwei), length/height-for-age (zlen)) were calculated using WHO growth standards. RWG was defined as an increase (≥ 0.67) in zbmi from birth to 12 months. Differences were tested using *t*-test and χ^2 ($p < 0.05$). Regression analyses (adjusted demographic covariates) were performed to examine the effect of ethnicity on RWG and zbmi, zwei and zlen at 3.5 years ($p < 0.05$).

Results: Compared with ABM, infants of CBM had a lower mean zbmi score at birth, 2 weeks, 12 months until 3.5 years, but higher zBMI scores between 4 weeks and 8 months. The same differences were observed for mean zwei except at 12 months. Infants of CBM had lower mean zlen scores at birth and 3.5 years; but higher mean zlen at 8 weeks and 4 to 12 months. Regression