

Concurrent Session 9: Public Health Nutrition

Changes in the antecedents of obesity in Australia between 1976 and 2005

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Background – The prevalence of obesity and type 2 diabetes have increased over the last 20 years while mortality from coronary heart disease has been declining. The reasons for these changes remain relatively unclear as longitudinal data on predictors of obesity change are scarce.

Objective – To understand the food and lifestyle antecedents of BMI and their changes over time between 1976 and 2005.

Design – 300 to 725 self-reported questionnaires from the Sydney Adventist Hospital were randomly selected for the years 1976, 1986 and 2005. Analyses included simple descriptive statistics, reliability analysis, univariate analysis of variance and linear regression analysis.

Outcomes – In 1976 dieting, physical activity, breakfast, chicken and pie/cake consumption predicted BMI for males; for females dieting, time urgency, eating between meals, butter and soft drink consumption were predictive. In 1986, dieting, physical activity, eating between meals, regular meal patterns and consumption of spreads, coffee, cereals, and salt predicted BMI in males; dieting and consumption of margarine, spreads and coffee were predictive for females. In 2005, choosing low-fat foods, consumption of eggs, spreads, coffee, cola and liquor predicted BMI for males; consumption of cola was predictive for females.

Conclusions – Foods and behaviours appear to be differentially related to BMI by sex and year. Factors predicting increases in BMI reflected changes in food patterns toward more energy dense foods.

Reduction in dietary energy density following group education session

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Background – Low energy dense diets are associated with reduced energy intakes and are promoted as a sustainable strategy for long term weight control.

Objectives – To determine if education sessions on ways to reduce dietary energy density (ED) can successfully decrease the energy density of diets consumed by women following weight reduction.

Design – Overweight or obese women entering a 14 week weight maintenance education program following a weight loss diet (~5MJ/day for 8 weeks). Women were randomised to receive either standard education on Dietary Guidelines (six 30 minute sessions) or modified education sessions involving twelve 30 minute sessions on principles of ED. The ED education program included food examples, homework, and group discussion. Five day diet diaries were used to measure dietary intake and Nutritionist V (FirstDataBank Inc. San Bruno, CA) was used to determine energy intake, total weight of food consumed, and number of servings of each of the food groups. ED was calculated as kilocalories divided by total weight of food and beverages excluding water.

Outcomes – Compared with the group receiving standard nutrition education sessions (n=48), those receiving the reduced ED education (n=17) had a significant reduction in ED at the end of the study (0.94 vs 0.79, β -0.29 95% CI -0.43, -0.06). The reduction was due to a decrease in the amount of servings from fats, oils and sweets food (9.8 vs 3.7, β -0.25 95% CI -4.45, -0.13), meat, fish, poultry and alternatives (1.8 vs 1.3, β -0.24 95% CI -0.71, -0.01) and breads, cereals rice and pasta (5.6 vs 4.2, β -0.28 95% CI -2.02, -0.23). No significant differences were seen between the groups with respect to number of servings of fruits (1.9 vs 1.5, β -0.09, 95% CI -0.96, 0.40), vegetables (2.4 vs 2.3, β 0.03 95% CI -0.65, 0.81) or dairy products (1.8 vs 1.5, β -0.11, 95% CI -0.72, 0.25).

Conclusion – Decreases in ED can be achieved following education sessions. However the reduction is largely achieved through decreased intake of high fat foods rather than an increase in low energy dense foods. The lack of significant increase in number of servings from low energy dense food groups (fruits and vegetables) suggest that this decrease may not be sustained over the long term.