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 Associations between diet quality, quality of life and Medicare costs in mid-aged women from the Australian Longitudinal Study on Women’s Health

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Background – Epidemiological studies suggest that adhering more closely to National Dietary Guidelines is associated with improved diet-related health outcomes, with a reduction in morbidity and mortality. A number of methods have been used to generate dietary scores to measure diet quality and variety.

Objectives – To evaluate whether an association exists between diet quality and indices of quality of life, health service use and Medicare costs in the Australian Longitudinal Study of Women’s Health (ALSWH).

Design – Cross-sectional measurement of association between an Australian Recommended Food Score (ARFS), self-reported variables and Medicare costs in women (n = 11,194, 50-55 yr) participating in the 2001 survey of the mid-aged cohort of ALSWH. ARFS was derived from responses to the Dietary Questionnaire for Epidemiological Studies FFQ and increases as the number of foods consistent with Australian Dietary Guidelines consumed at least once a week, increases. ARFS was divided into quintiles with higher scores having more favourable macro and micronutrient profiles. Data linkage allowed examination of associations with Medicare costs.

Outcomes – More women in the lowest quintile of the Australian Recommended Food Score reported their general health as fair or poor compared to those in the highest quintile (18 vs 10%, P<0.0001). The mean SF36 general health perception domain score was higher for those in the top ARFS quintile compared to the bottom (mean (95%CI); 75.3 (74.3, 76.2) vs 67.1 (66.2, 68.0) P<0.0001). Fewer women in the highest ARFS quintile reported four or more GP consultations in the previous year compared to the lowest (13% vs 17%, P=0.0024) but there was no difference in Medicare costs across the quintiles, P>0.05.

Conclusion – Higher ARFS is associated with improved self-reported indices of quality of life, but not reduced Medicare costs. Longitudinal evaluation will determine whether a higher ARFS is protective in terms of predicting health outcomes or reducing long-term health costs.

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Delayed gastric emptying may contribute to prolonged postprandial hyperglycaemia in meal-fed cats

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Background – Following ingestion of a meal, postprandial hyperglycaemia in cats persists for 20-24 hrs, and the reasons for this are unknown.

Objectives – To describe the patterns of postprandial plasma glucose, D-lactate, and L-lactate concentrations, and gastric emptying time in meal-fed cats, and to assess the effects of meal volume on gastric emptying time.

Design – Eleven healthy cats were fed a commercially available, high carbohydrate (54% metabolisable energy) diet for 2 weeks. In the third week, on two separate occasions, fasted cats were fed a meal of 50 kcal/kg and consumed at least 90% within 30 mins. On the first occasion, the cats underwent repeated ultrasound examinations over 26 hrs to determine gastric emptying time. On the second occasion, plasma glucose, D-lactate and L-lactate concentrations were measured over 24 hrs. To assess the effect of volume of food eaten on gastric emptying time, 2 weeks later, five of the same cats were fed a meal of the same composition but half the volume (25 kcal/kg) and a second series of ultrasound examinations was performed.

Outcomes – Glucose concentrations were significantly higher than baseline from 1 to 18 hrs after feeding (P<0.001), reaching a peak at 10.7 ± 5.3 hrs (mean ± SD) after the meal. Median time to gastric emptying when cats were fed their total daily energy intake in a single meal was 24 hrs (range 16-26 hrs). In contrast, times to gastric emptying were substantially shorter when cats were fed 50% of their daily intake in a single meal (median 14 hrs; range 12-14 hrs). D- and L-lactate concentrations did not change substantially after feeding.

Conclusion – These results suggest that prolonged gastric emptying time contributes to the prolonged postprandial hyperglycaemia observed in meal-fed cats. They also show that gastric emptying is faster if the meal size is reduced.