Posters

Comparison of three ‘non-dieting’ interventions for overweight women: A randomised trial

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Background - The lack of long-term success of traditional treatments for obesity has been the impetus for the development of novel treatments. ‘Non-dieting’ programmes aim to encourage eating in response to hunger and satiety. Intensive training in the relaxation response may enhance the success of non-dieting interventions.

Objectives - To evaluate and compare the effectiveness of three non-dieting interventions in maintaining improvements in lifestyle habits, health and well being at 12-months and 2-years.

Design - A randomised trial of three non-dieting interventions, in 225 obese/overweight women (BMI ≥ 28; age 25-68 years) at high cardiovascular risk. Two group programmes, one with a focus on training in the relaxation response (P1) and one without (P2), were compared to a self-guided mail-delivered programme. All three interventions involved an initial 10-week programme, followed by eight months of fortnightly/monthly intervention.

Outcomes - At 12-months, P1 produced the greatest improvements in stress management behaviours, depression, intuitive eating, medical symptoms and self-efficacy for low-fat eating. All three programs resulted in significant reductions in psychological distress and medical symptoms (P <0.05); and significant improvements in eating self-efficacy and health-promoting lifestyle behaviours (P <0.01). At 12-months, mean weight was unchanged. 107 women have completed the 2-year follow-up, and the long-term impact of the three interventions will be presented.

Conclusions - Over 12-months, all three non-dieting interventions enhanced psychological wellbeing and lifestyle habits for overweight/obese women. However, inclusion of intensive relaxation response training in P1 resulted in greater improvements in several measures.

Zeolite and the efficiency of urea utilisation by sheep fed a low-quality forage

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Background - Ruminants are often fed supplementary urea to improve their N status when grazing low-quality forages. The efficiency of urea-N use is limited by its rapid hydrolysis to NH₃ and subsequent loss from the rumen. Zeolite traps NH₃ in vitro and may also act in vivo to delay NH₃-N loss from the rumen. This experiment investigated the effect of zeolite on the utilisation of urea-N provided as a supplement to sheep eating a low-quality forage.

Design - Fourteen Merino cross wethers were used in an experiment in which in the first period (the covariate period) all sheep were fed ad lib a basal diet consisting of barley straw plus 2% molasses, followed by a second period (the experimental period) in which seven sheep were given the basal diet plus 1% urea and the other seven were given the basal diet plus 1% urea plus 5% zeolite (Supersorb Environmental NL, Albany, WA).

Outcomes - Urea increased (non-significantly) dry matter (DM) intakes from 757 ± 51.9 to 799 ± 57.1 g DM/day (mean ± standard error; P = 0.33). DM and N digestibilities were 55.7 ± 1.24 and 50.6 ± 1.77% respectively in the covariate period, and 52.5 ± 2.44 and 62.6 ± 2.56% in the experimental period (DM digestibility, P =0.074; N digestibility, P <0.0001). Addition of zeolite did not further increase DM intakes or affect the digestibility of DM or N. Rumen NH₃ concentrations measured 4 hours after feeding were significantly (P=0.005) increased by zeolite, from 4.83 ± 0.453 to 7.30 ± 0.548 mg/100ml. There was a numerical increase in the efficiency of microbial protein synthesis from 288 ± 16.1 to 325 ± 45.4 g MCP/kg digestible DM. This increase was not statistically significant (P = 0.461) because of an increased variability in the MCP response of the sheep fed zeolite.

Conclusions - The rumen NH₃ data suggest that zeolite may potentially improve urea-N utilization. Work is needed on appropriate zeolite delivery methods and the possible role of Na⁺ in releasing NH₃ from the zeolite lattice.