Main study aim: To assess the efficacy of the Simply Fuller Longer (SFL) range of high-protein calorie counted weight loss products, in overweight and obese men and women, on body weight, motivation to eat and selected biomarkers of health.

Main study subject recruitment: We started 45 adults and completed 42 adults (22 females + 20 males, with 3 drop outs). Power statistics were conducted to establish required subject numbers based on anticipated body weight change and appetite data.

Main study protocol: The study was a 4 week diet trial in free-living subjects, subjects attended the Human Nutrition Unit at the Rowett Institute on a twice-weekly basis, to collect food and for record of body weight. The study was conducted in males and females who were overweight or obese with no existing medical conditions or medication that could influence appetite or mood. Subjects acted as their own control, with a period of habitual food intake recorded pre-weight loss and then follow the SFL M&S diet for 4 weeks, with a SFL protein-enriched (high-protein, HP) test meal and normal protein (NP) lunch during the weight loss period, to assess hunger and appetite (motivation to eat).

Governance: The study was reviewed by a NHS Ethics Committee, the North of Scotland Research Ethics Committee. Written, informed consent was obtained from all subjects. Subjects received only reimbursement of travel expenses, which was £50. Statistical analysis of data conducted by Biomathematics and Statistics Scotland.

Main study Results: Over the four-weeks, total average weight loss was 4.73 kg (p<0.001), with body weight reducing from 95.99 to 91.27 kg, equating to a clinically significant 5.2% reduction in body weight. There was a consistent weight loss over the four weeks, with the greatest loss in week 1 (Figure 1). The reduction in body weight led to a significant reduction in body fat (p<0.001) also blood pressure (p<0.001), waist circumference (p<0.001) and waist:hip ratio (p<0.001). There was a significant improvement in blood glucose (p<0.001) and cholesterol (p<0.001), associated with weight loss.

Results of test meal challenge: Average group hunger throughout the day after SLF lunch and normal protein lunch. Breakfast meal is identical on both days, given at 08:15; test lunch provided at 13:15. VAS is visual analogue scale (line scale 0 to 100mm, where larger number is more hungry). Significant DIET effect (p=0.007) indicating less hungry after SFL meal; DIET-TIME effect (p=0.003) 13.30-15.30 & 15.30 onwards after lunch.
Main study conclusions:

- Provision of the calorie counted, protein-enriched Simply Fuller Longer food range led to a clinically significant weight loss of 5% or 4.73kg over 4 weeks in forty-two free-living overweight & obese men and women, feeding ad libitum.

- As a result of the weight loss, there were significant improvements in body composition, blood pressure, and bio-markers of health.

- During dieting, energy intake was reduced by 40%, protein intake increased from 16% to 27%, relative to pre-weight loss nutritional profile. Dietary fibre intake was also significantly increased and salt intake significantly decreased.

- The lunch test meal in the lab provides evidence of Simply Fuller Longer: significantly lower hunger and more fullness after the protein enriched meal in comparison to the normal protein meal.

Dr Alex Johnstone

Email: Alex.Johnstone@abdn.ac.uk

Telephone: +44 (0)1224 438614