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Impact of a weight management programme on the dietary habits of non-pregnant women

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Weight loss maintenance and preventing weight regain leads to health improvements^(1,2). There is evidence that a healthy diet with fewer energy dense foods leads to weight loss and sustaining behaviour change is likely to be achieved by habit-based interventions^(3,4). Eating breakfast is one of the habits associated with weight loss maintenance⁽⁵⁾. This study investigates the effects of a weight management programme on weight loss and changes in dietary habits.

Data was collected in the UK between May–November 2016. An online survey, hosted by Slimming World (SW), was completed by female members (19–49 years) who had recently joined the programme. The questionnaire included before joining (T0) and current data (T1): weight, height, validated food frequency and dietary habits questionnaire. 12 weeks (T2) later, the same participants were invited to complete a second survey with the same questions.

543 eligible participants completed the first questionnaire (T0 and T1), and 74 the second questionnaire (T2). Mean BMI decreased from 35.0 (± 7.1) to 34.1 (± 6.9) from T0 to T1 ($p < .001$) and to 31.0 (± 7.2) at T2 ($p < .001$).

Data from the dietary habits questionnaire showed the percentage of participants who reported always (4 to 7 times/week) having breakfast increased from T0 to T1 ($p < .001$) with no significant difference between T1 and T2 (50.8 %, 83.6 % and 80.6 %). Whilst around two-thirds of the participants (69.4 %) reported they usually ate bread or toast at breakfast at T0, this reduced to 24.5 % at T1 ($p < .001$) with a small increase at T2 (35.5 %). A further change at breakfast was in fruit consumption. Between T0 and T1, there was nearly a four-fold increase in fruit intake (16.8 % to 65.2 %, $p < .001$) with the increase at breakfast maintained at T2 (63.2 %).

Bread intake at lunch-time also decreased between T0 and T1 (86.4 % to 11.8 %, $p = .78$) and the reduced intake was maintained at T2 (27.6 %). At the evening meal, bread consumption again decreased over the three time points (33.3 %, 4.2 % [$p < .001$] and 3.9 %). However, fruit and vegetable intake increased (13.1 %, 51.0 % [$p < .001$] and 27.6 % [fruit]; 71.6 %, 89.0 % [$p < .001$] and 90.8 % [veg] at T0, T1 and T2 respectively).

Investigating the changes in food intake between meals, the most significant decreases were in biscuits or cakes (79.4 %, 4.4 % [$p = .13$] and 27.6 %), potato crisps (77.9 %, 6.8 % [$p = .003$] and 25.0 %), and chocolate and sweets (79.6 %, 6.1 % [$p = .003$] and 21.1 %). The most significant increases were in fruit (28.0 %, 84.2 % [$p = .008$] and 85.5 %) and vegetables (4.6 %, 44.9 % [$p < .001$] and 22.4 % at T0, T1, and T2 respectively).

In conclusion, this study has shown that SW is an effective weight management programme in helping to build healthy dietary habits in non-pregnant women with obesity of child-bearing age. Further analyses will determine whether any of the changes significantly contribute to the weight loss observed or whether it is a combination of the changes in dietary habits. Further research is required to investigate sustainability of these healthy habits.

1. Avenell A, Brown TJ, McGee MA *et al.* (2004) *J Hum Nutr Diet* **17**(4), 317–335.
2. Barte JCM, Ter Bogt NCW, Bogers RP *et al.* (2010) *Obes Rev* **11**(12), 899–906.
3. Crino M, Sacks G, Vandevijvere S *et al.* (2015) *Curr Obes Rep* **4**(1), 1–10.
4. Cleo G, Isenring E, Thomas R *et al.* (2017) *J Hum Nutr Diet* **30**(5), 655–664.
5. Wyatt HR, Grunwald GK, Mosca CL *et al.* (2002) *Obesity* **10**(2), 78–82.