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## Weight loss behaviours and their association with diet and perceived barriers to healthy eating among young adults in North East England

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Worldwide, the burden of disease associated with excess weight is a matter of public health importance<sup>(1)</sup> resulting in national programmes promoting weight loss interventions. Identifying perceived barriers to healthy eating (PBHE) is critical in designing successful dietary interventions, particularly where weight loss is concerned<sup>(2,3)</sup>. However whether frequency of weight loss attempts impacts diet quality and barriers to healthy eating remains to be addressed.

This study aimed to investigate how previous weight loss attempts relate to healthy eating (as measured by a Mediterranean diet (MD) score) and PBHE amongst a cohort of young people in the North East of England. An anonymous online survey was designed, with two-step cluster analysis, t-tests and Pearson's correlation tests used to analyse data.

554 individuals (86.9 % female) responded; mean age was 28.2 years SD 8.31, mean BMI was 25.67 kg/m<sup>2</sup> SD 11.47, 92.9 % were Caucasian and 91.7 % lived in the North East of England. 62.4 % participants were trying to lose weight at the time of the survey and 79.7 % (70.8 % of men and 81.0 % of women;  $p = 0.046$ ) had tried to lose weight previously. The most common methods of weight loss were plans involving exercise (48.5 %) and diet plans not involving group meetings (30.8 %), with the least common being surgery (0.2 %).

Participants who reported previous weight loss attempts ( $n = 439$ ) made on average five (SD 12.57) attempts, with participants reporting that on average two (SD 2.69) of these attempts were successful. Participants who reported attempting weight loss in the past were slightly older (28.6 vs 27.0 years;  $p = 0.191$ ), significantly heavier (mean BMI 26.6 vs 21.8 kg/m<sup>2</sup>;  $p < 0.001$ ), reported greater adherence to the MD (mean MD score 5.34 vs 4.84;  $p = 0.022$ ), and reported a similar number of PBHE (mean PBHE 3.90 vs 3.14;  $p = 0.126$ ) to those not attempting to lose weight. The number of weight loss attempts was significantly associated with number of successful weight loss attempts ( $p = 0.000$ ).

According to frequency of weight loss attempts (1-2 vs 11+ attempts), participants were not significantly different in age, BMI, adherence to MD or PBHE. With respect to successful weight loss, those reporting no successful weight loss attempts were on average slightly older (30.19 vs 28.29 years;  $p = 0.555$ ), heavier (mean BMI 26.25 vs 25.0 kg/m<sup>2</sup>;  $p = 0.062$ ), less adherent to the MD (mean MD score 4.70 vs 5.37;  $p = 0.248$ ), and had more PBHE (mean PBHE 4.26 vs 3.31;  $p = 0.584$ ) than those making more than three successful attempts.

The most commonly reported PBHE was 'lack of willpower', with cluster analysis showing that participants not reporting 'lack of willpower' as a PBHE were on average older, leaner, had higher MD adherence and acceptance scores than those who thought this factor was a PBHE.

In conclusion, results of this survey suggest that a sizeable proportion of the population are attempting to lose weight, and that 'lack of willpower' is a prevalent PBHE. Therefore further research is needed into helping individuals to overcome such PBHE in order to improve weight loss and, in the long-term, the burden of obesity.

1. Tremmel M, Gerdtham G, Nilsson P *et al.* (2017) *Int J Environ Res Public Health* **4**, 435.
2. Kearney JM & McElhone S (1999) *Br J Nutr* **2**, 133–7.
3. Lara J, McCrum L & Mathers J (2014) *Maturitas* **3**, 292–8.