

Healthier dietary behaviours and improved nutritional literacy following a digitally enabled Tier-3 weight management programme: 6-month service evaluation outcomes

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Background

Overweight and obesity are common in the UK and closely linked to type 2 diabetes, heart disease, and higher mortality¹. They drive non-communicable disease, lower quality of life, and strain healthcare.

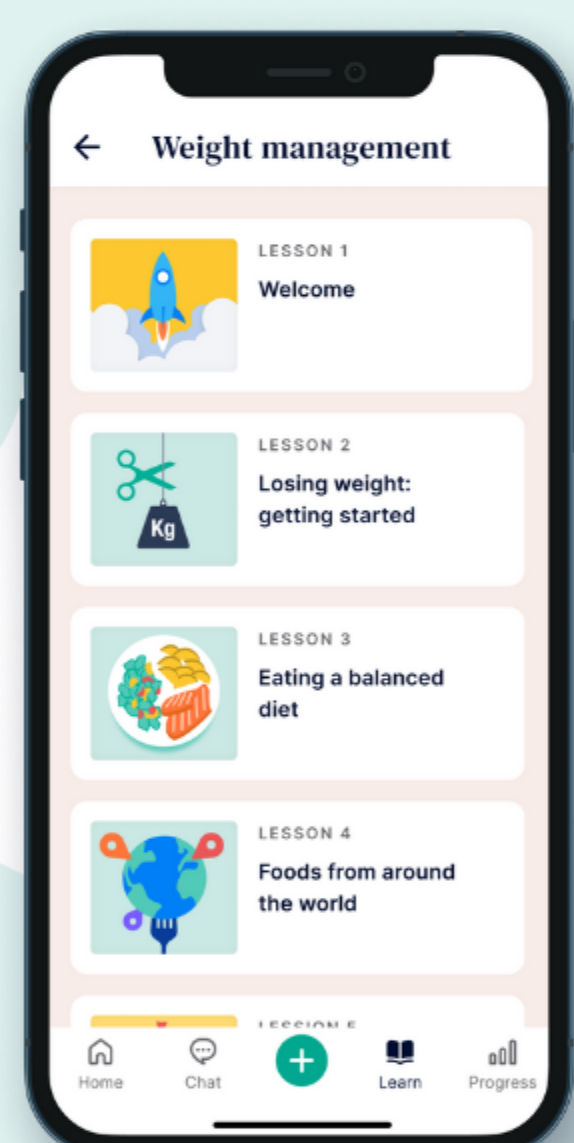
Digital delivery can expand access to behavioural and medical interventions, but real-world evidence from NHS Tier-3 services is limited. Diet plays a central role in both disease development and treatment response².



Aims and objectives

To evaluate changes in dietary habits and nutritional literacy after 6 months of participation in a digitally enabled Tier-3 weight management programme.

Method



Adults referred to Oviva's Tier-3 programme who completed questionnaires at baseline and 6 months were included (n=421). Dietary intake and eating behaviours were assessed using the Food Frequency Questionnaire (FFQ), and nutritional literacy was measured with the Nutritional Health Literacy Survey (NHLS).

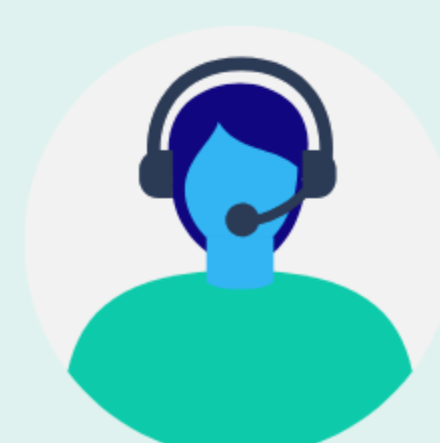
All participants had access to digital resources, including an app-based platform with educational materials and self-monitoring tools, alongside remote consultations with specialist dietitians. Ethical approval was not required as this was a service evaluation.

Results

Most (93.0%) received GLP-1 receptor agonist therapy (semaglutide), with an average weight reduction of **10.5% at 6 months**.

Participant demographics

Percentage of women participants	85%
Average baseline BMI	47.3kg/m ² (±8.2)
Average age	49 years (±13)
Resided in deprived areas (IMD 1-3)	28%
Unemployed	10%
At least one documented condition	82%
Had hypertension	45%
Had anxiety and depressive disorder	45%
Had type 2 diabetes or prediabetes	34%



Emotional eating

Emotional eating: "always/frequently" responses declined from 48.7% to 8.1% ("always": P<.001, Cramer's V=0.24; "frequently": P<.001, V=0.31), while "never/rarely" responses increased from 17.4% to 68.7% ("never": P<.001, V=0.32; "rarely": P<.001, V=0.25).

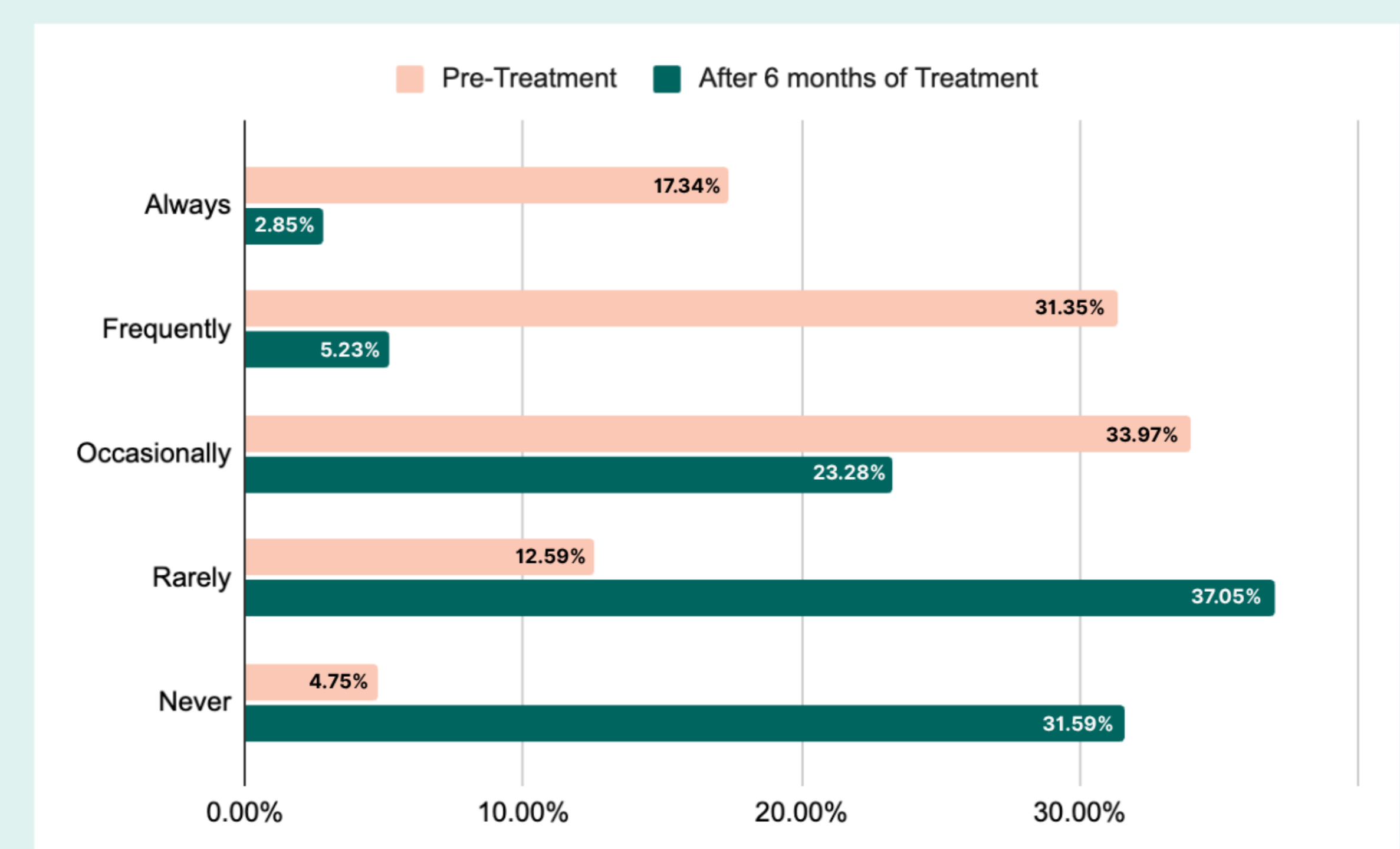


Chart 1. Emotional Eating (in Response to Anxiety, Depression, Anger, or Loneliness) Before and After 6 Months of Oviva Treatment

Diet quality

Multiple-daily vegetable consumption increased (P<.001, V=0.16), while daily or multiple-daily intake of buns, chocolate, crisps, and sugary drinks declined (P<.001; V=0.45).

Other habits

Breakfast frequency improved (P=.03, V=0.09), discretionary salt use decreased (P<.001, V=0.13), and both binge and daily alcohol consumption were less frequently reported (P<.001, V=0.14).

Nutritional literacy

Nutritional literacy also improved: participants reported greater ease in locating reliable information on healthy food (P<.001, V=0.15), interpreting packaging (P<.001, V=0.14), evaluating online nutrition sources (P=.004, V=0.10), and explaining healthy-eating principles to others (P<.001, V=0.18).

Discussion and conclusion

Engagement in a digitally enabled Tier-3 programme was associated with improved dietary behaviours and nutritional literacy at 6 months. Changes such as reduced emotional eating and more consistent meal patterns reflect cognitive and behavioural shifts that go beyond weight loss.

The findings reflect the combined influence of pharmacological therapy, particularly GLP-1 receptor agonists, alongside structured wraparound digital support from dietitians and app-based care. While contributions of biological and behavioural mechanisms cannot be separated, in real-world NHS practice, digitally-enabled Tier-3 programmes combined with GLP-1 therapies may offer a scalable and sustainable means of achieving weight loss and improving dietary behaviours and nutritional literacy.

References

- Public Health England. Adult Obesity and Type 2 Diabetes, 2014.
- Petroni ML et al. Nutrition in Patients with Type 2 Diabetes. Nutrients, 2021.