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The effectiveness and sustainability of health outcomes from an advanced digital weight-loss programme in the UK

Submission date
20/05/2024

Recruitment status
No longer recruiting

Registration date
27/05/2024

Overall study status
Completed

Last Edited
28/05/2024

Condition category
Nutritional, Metabolic, Endocrine

[X] Prospectively registered
[_] Protocol
[X] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims

Glucagon-like-peptide-1 receptor agonists (GLP-1s) have been generating a lot of media hype in the context of the current obesity epidemic. Clinical trials have consistently demonstrated that the medications induce significant weight loss in short periods for most patients living with obesity. Another key conclusion drawn from these efficacy trials is that side effects are rare and can be effectively managed with appropriate support. However, these exciting discoveries have been tempered by the indication that a significant proportion of weight loss achieved through GLP-1 treatment comes from a reduction of fat-free mass (lean muscle and bone mass), and is often regained within several months of stopping the treatment.

Lean muscle mass is essential for physical function, disease prevention and general quality of life. Inadequate muscle mass limits human ability to perform daily tasks such as carrying shopping bags, walking up stairs without difficulty, or maintaining a healthy sitting posture. For people whose hobbies include higher energy activities such as hiking, social sports or playing with their children, muscle mass deficiencies become even more of a hindrance to their well-being. Perhaps most concerningly, people with low relative muscle mass are both at a greater risk of developing critical illnesses and take longer to recover from acute conditions. Lean muscle mass is also highly important for long-term weight management and bone health, with stronger bones reducing the likelihood of fractures, osteopenia and osteoporosis.

The National Institute of Health and Care Excellence has stressed that GLP-1 treatment should only ever be used as a supplement to lifestyle (diet and exercise) therapy that is guided by well-connected multidisciplinary care teams. Doing this could help patients maintain lean muscle mass while losing weight, and also reduce the chance of regaining weight after stopping GLP-1 treatment, especially if the lifestyle program focuses on resistance training and high-protein dieting.

This study aims to test whether an advanced lifestyle program (proactive coaching and muscle-retention focus) with GLP-1 supplementation leads to better and more sustainable health outcomes for people with overweight and obesity than a basic lifestyle program with GLP-1 supplementation. The study's findings should help policymakers and researchers develop clear program design standards for weight loss services in the UK.

Who can participate?
Adults between 18 and 70 years who doctors consider eligible for tirzepatide weight-loss treatment, based on Medicines and Healthcare products Regulatory Agency (MHRA) guidelines and Mounjaro product information.

What does the study involve?
Participants will be asked to present at a certified UK pathology clinic to provide a blood sample that measures various biomarkers. They will also be required to present at a designated sports clinic to provide body composition and strength measurements. Participants will then be randomly allocated to one of the two study groups. Those in the first group will receive advanced health coaching and tirzepatide treatment. Those in the second group will receive basic health coaching and tirzepatide treatment. Both groups will receive coaching and treatment for 6 months when they will again present at a pathology and sports clinic to provide the same measurements as they did at the start of the study. These measurements will be recorded again at 12 months (6 months after the coaching and treatment has ended).
Both interventions will be delivered through a mobile phone app (computer platform available for those without smartphones) and therefore participants will have the freedom to implement lifestyle changes in their chosen environment. Blood samples will be collected at UK-registered pathology clinics, and body composition and strength measurements will be provided at designated UK sports clinics.

What are the possible benefits and risks of participating?
Participants may experience body composition improvements. However, there are several risks of participating in the study, including musculoskeletal injuries, anxiety, nausea, stomach issues, diarrhea, constipation, skin rashes, and in rarer cases, pancreatitis, gallbladder disease, low blood sugar and acute kidney injuries.

Where is the study run from?
Eucalyptus (Juniper) UK

When is the study starting and how long is it expected to run for?
November 2023 to October 2025

Who is funding the study?
Eucalyptus (Juniper) UK

Who is the main contact?
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Contact information

Type(s)
Public, Scientific, Principal investigator

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Protocol serial number
ACTRN12624000022561p

Study information

Scientific Title
The effectiveness and sustainability of health outcomes from an advanced GLP-1-supported digital weight-loss programme in the UK: a randomized controlled trial

Acronym
EQLADWLS

Study objectives
This study aims to assess the effectiveness, quality-of-life, and retention benefits of changing the health coaching component within a real-world GLP-1 RA-supported digital weight-loss service (DWLS) from a reactive to a proactive care model. It is hypothesized that proactive engagement from multidisciplinary teams will result in higher program adherence levels, which in turn, will improve weight loss and health-related quality of life (HRQoL) outcomes.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 24/05/2024, Bellberry Limited (123 Glen Osmond Rd, Eastwood, 5063, Australia; +61 (08) 8361 3222; bellberry@bellberry.com.au), ref: 2023-11-1454

Primary study design
Interventional

Study design
Randomized double-blind active-controlled study

Study type(s)
Quality of life, Treatment, Safety, Efficacy

Health condition(s) or problem(s) studied
Overweight and obesity

Interventions

The study will apply stratified randomisation through the LaunchDarkly program in order to achieve comparable representation of the various BMI categories, age categories and ethnicities in both treatment and control groups.

Participants in the treatment group will receive weekly subcutaneous injections of 2.5 mg tirzepatide for 4 weeks, with the dose increasing to 5 mg from week 5 until the end of the intervention period at 6 months. Tirzepatide will be sent to patients on a monthly basis to self-administer, along with return labels to allow study investigators to monitor treatment adherence (drug vial return).

As part of the group's advanced behavioural intervention, participants will have access to asynchronous, patient-initiated health coaching 5 days a week, 18 hours a day for the duration of the intervention. Health coaching (diet and exercise) will be delivered by a team of dietitians and mental health nurses through a mobile phone application in the form of videos, text messages, infographics and spreadsheets, and will be personalised for each treatment group participant, based on the assessment of the prescribing doctor and the participant's goal setting sessions with their health coaching team. Although personalisation will be prioritised, health coaches will focus on high-protein diets and resistance training, helping participants work towards 3 days-a-week of 45-minute resistance training sessions and diets that aim for 1.6 g of protein per kilogram of bodyweight (with 30 g protein per meal and 15g per snack, as a general recommendation). Each treatment group participant will receive a minimum of 1 asynchronous goal-setting and accountability session (45 minutes) and weekly asynchronous check-ins (15 minutes) for the first 12 weeks of treatment. Participant adherence to the behavioural intervention will be monitored through app analytics of weight-logging frequency, food diary input (text and image), and total app engagement.

From months 6 to 12, participants in the treatment group will continue to have access to educational resources and their goals via the program app but will no longer be able to communicate with their multidisciplinary team.

Participants in the control group will receive the same medical intervention as participants in the treatment group, i.e., weekly subcutaneous injections of 2.5 mg tirzepatide for 4 weeks, with the dose increasing to 5 mg from week 5 until the end of the intervention period at 6 months. For the behavioural intervention, control group participants will receive standardised diet and exercise counselling in a group session at the start of the trial (based on World Health Organisation recommendations). The group session will be delivered by a dietitian via videoconferencing software (Zoom) to a maximum of 20 participants per group. A summary sheet of the session's recommendations will be sent to control group participants at months 2 and 4 of the trial period. Session attendance checklists and email logs will be used to monitor adherence to group sessions.

Intervention Type
Behavioural

Primary outcome(s)
1. Body weight measured via medical scales at baseline, 6 months post-trial commencement, and 6 months following the end of treatment
2. Ratio of fat-free mass to fat mass measured via DEXA scan at baseline, 6 months post-trial commencement, and 6 months following the end of treatment
3. Composite strength (isometric squat, push and mid-thigh pull) measured via force plates at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

Key secondary outcome(s)
1. Side effect incidence (e.g., gastrointestinal issues, stomach issues, dizziness, anxiety, fever, skin rash, etc) assessed by an independent doctor (via video consult) at any stage of the trial
2. Pathology results, including fasting glucose, fasting insulin, HbA1c and fasting lipid levels, measured via a blood test at baseline, 6 months post-trial commencement, and 6 months following the end of treatment
3. BMI: measured via medical scales and stadiometer (weight [kg]/height^2 [metres]) at baseline, 6 months post-trial commencement, and 6 months following the end of treatment

Completion date
01/10/2025

Eligibility

Key inclusion criteria
1. Between 18 years and 70 years of age at the time of completing the program's pre-questionnaire
2. Satisfy the Medicines and Healthcare products Regulatory Agency (MHRA) guidelines for tirzepatide (Mounjaro) weight management
3. BMI of 30kg/m² or more (obesity), or a BMI between 27-30kg/m² (overweight) and also have weight-related health problems such as prediabetes, high blood pressure, high cholesterol, or heart problems

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Upper age limit
70 Years

Sex
All

Key exclusion criteria
1. Outside the 18-70 year age bracket
2. Does not have a BMI of 30 kg/m2 or more, or a BMI of 27-30 kg/m2 with at least one weight-related comorbidity such as pre-diabetes, high blood pressure, high cholesterol, heart problems
3. Has already started tirzepatide treatment as a current subscriber to the Eucalyptus weight-loss program
4. Failure to provide baseline measurements within three weeks of receiving confirmation of trial participation

Date of first enrolment
01/08/2024

Date of final enrolment
28/08/2024

Locations

Countries of recruitment
United Kingdom

England

Northern Ireland

Scotland

Wales

Study participating centre
Eucalyptus
12 New Fetter Lane
London
United Kingdom
EC4A 1JP

Sponsor information

Organisation
Eucalyptus

Funder(s)

Funder type
Industry

Funder Name
Eucalyptus

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be stored in a publicly available repository (link to be provided before study commencement).

The datasets generated during and/or analysed during the current study will be published as a supplement to the results publication.

IPD sharing plan summary

Stored in publicly available repository, Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet			21/05/2024	No	Yes
Statistical Analysis Plan			21/05/2024	No	No