Liraglutide for Obesity in HIV (LIROH): A Single-Arm, Open-Label Clinical Trial in South Africa

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INTRODUCTION

Obesity is a common complication of treated HIV, especially among Black women in Southern Africa. However, little is known about the interest in anti-obesity therapies among this population.

METHODS

DESIGN

Open-label, phase IV, pilot clinical trial to assess acceptability and preliminary efficacy of liraglutide for obesity management in suppressed people living with HIV (PLWH) in rural KwaZulu-Natal, South Africa

INTERVENTION

Liraglutide for 12 weeks, with dose escalation from 0.6 mg SC daily to 3.0 mg SC daily over 4 weeks, plus lifestyle counseling

ENROLLMENT CRITERIA

- ≥18 years old
- Virally suppressed on first-line ART for ≥6 months
- BMI ≥30 kg/m^2

EXCLUSION CRITERIA

- Using another weight loss agent
- History of diabetes

PRIMARY OUTCOME: acceptability as assessed by enrollment fraction and retention at 12 weeks

SECONDARY OUTCOMES: changes in weight, blood pressure, depressive symptoms, QoL, sleep & AEs

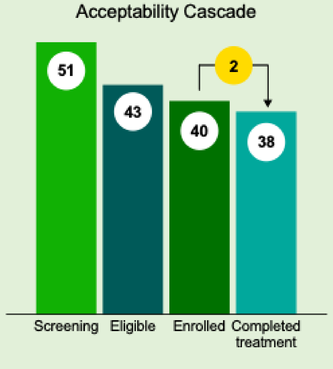
This study demonstrated that liraglutide was **acceptable, well-tolerated, and associated with reduced body weight and depressive symptoms** among people living with HIV and obesity in South Africa.

We screened 51 PLWH from May 5 to September 17, 2024, of whom 43 (84%) were eligible and 40 (93%) consented for enrollment (Table 1).

Two (5%) discontinued treatment due to relocation. As of February 7th, 2025, all participants had completed treatment, with 18 (47%) remaining in the final wash-out period.

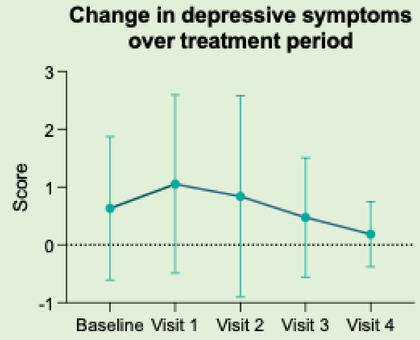
Table 1. Baseline characteristics of LIROH

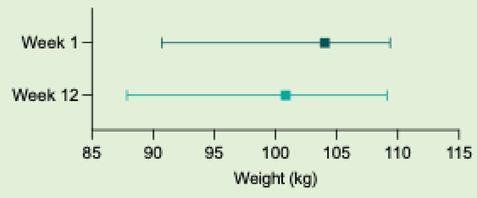
Age, years	38 (SD: 5)
Women	37 (97%)
Body weight, kilograms	104, [91,109]
Body Mass Index, kg/m^2	39 [36, 43]
Systolic blood pressure, mmHg	123, [114, 136]
Diastolic blood pressure, mmHg	84, [75,87]
LDL, mmol/L	2.7 (SD:0.8)
HDL, mmol/L	1.2 (SD:0.3)
HbA1c, %	5.7 (SD:0.5)
Legend: Median [IQR], mean (SD:), n (%).	



RESULTS

During the treatment period, there were reductions in body weight and depressive symptoms. From baseline to week 12, participants loss an average of 3.1 kg ($p<0.001$) and had a mean reduction of 0.45 in depressive symptom scores ($p=0.045$).





Adverse effects: 18 participants (45%) with Grade 1-2 gastrointestinal side effects; 7 (16%) participants with Grade 2-3 headache, dizziness, or fatigue; 2 (5%) with Grade 1 injection site reactions.6 participants (15%) with adverse effects that required dose reduction.

CONCULSION

Liraglutide was acceptable and well-tolerated among PLWH with obesity in South Africa. There is a potential role for medical obesity therapies in this population and a need for larger trials for efficacy in this region.

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