Body Composition Changes across a three-phased Community-Based Exercise Intervention Study among Adults Living with HIV

Poster #19

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CBE
Community Based Exercise Research Study

Physical Therapy
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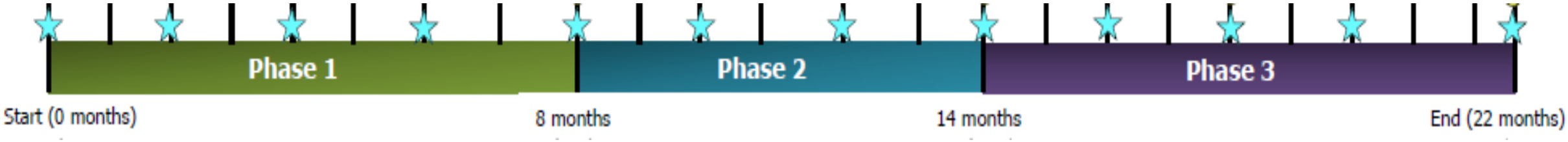
Aim, Intervention & Data Collection

CBE Community Based Exercise Research Study

Aim: To evaluate the impact of translating a community-based exercise (CBE) intervention to enhance health outcomes (including weight and body composition) for adults living with HIV.



Baseline Monitoring Phase

Fitness Assessments (YMCA)

- Cardiopulmonary Fitness (VO_2peak)
- 12 time points (every 2 months)

CBE Intervention

YMCA Membership
Exercise 3X/week:
Combination of aerobic, resistance, flexibility, neuromotor / balance
Supervised weekly by personal coach @ YMCA
Weekly progression as tolerated
Fitbit Zip
Monthly In-Person Education Sessions
http://j.mp/CBEStudy

Follow-Up Monitoring Phase

YMCA Membership
Exercise 3X/week (independent)

http://bmjopen.bmj.com/content/6/10/e013618

Outcomes of Interest: Body Mass Index (BMI) (kg/m^2); Weight (kg), Fat Weight (kg), Body Fat Percentage (%), fat free mass (kg)
Analysis: Intention to Treat - Segmented regression (adjusted for baseline age and sex) to assess the change in trend (slope) between phases. Included all participants with data for age, sex, and at least one weight and body composition measure.

Results

CBE Community Based Exercise Research Study

Of the 108 participants who initiated the study:

- 80/108 (74%) started the CBE Intervention (Phase 2)
- 67/80 (84%) completed the CBE Intervention (Phase 2)
- 52/67 (77%) completed the follow-up monitoring phase (Phase 3)

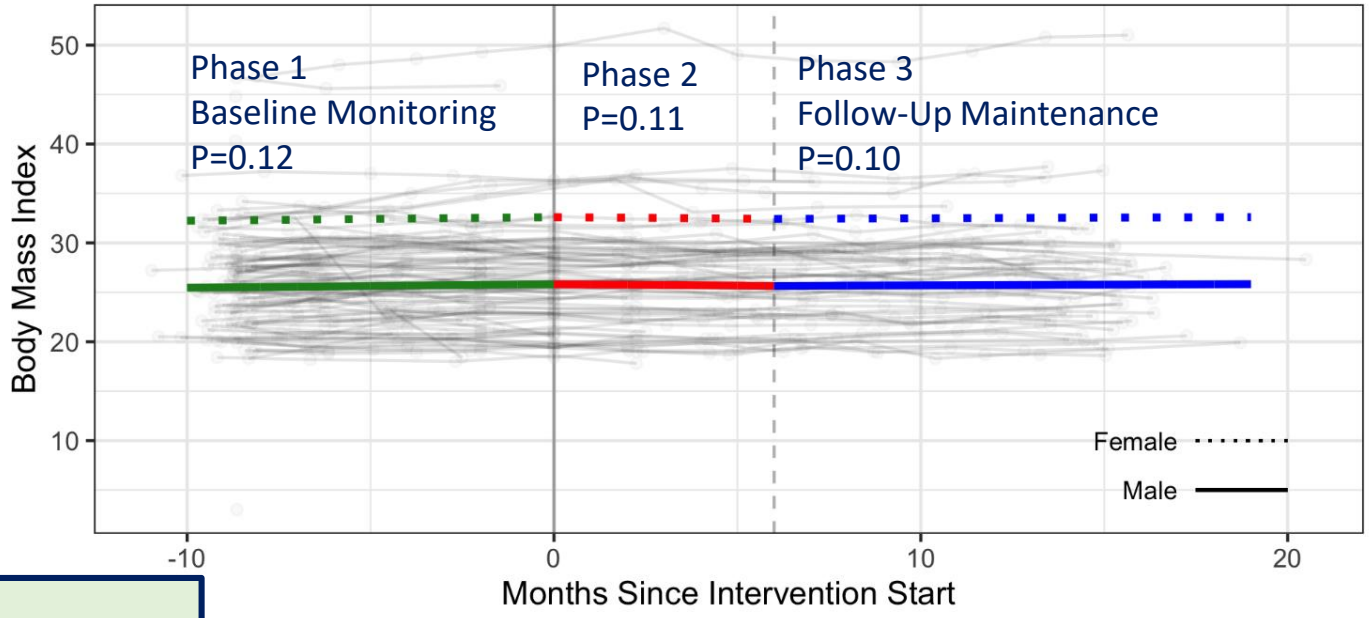
Characteristics at Study Initiation (Phase 1)	Number (%) (n=102)
Median Age (25-75th percentile)	51 years (44, 59)
≥50 years	56 (55%)
Males	91 (89%)
Females	11 (11%)
Median # of comorbidities (25-75th percentile)	4 (2,7)
Living with ≥2 comorbidities	79 (77%)
Common Comorbidities (>40%) included:	
Mental Health (e.g. depression, anxiety)	46 (45%)
Joint Pain (e.g. arthritis)	42 (41%)
Median # Years Since HIV Diagnosis (25-75th percentile)	21 (12, 31)
Employed Full-time or Part-Time	32 (31%)
Exercise History	
I currently exercise and have done so for > 6 months	30 (29%)

Body mass index

Baseline BMI (mean; sd)
Males: 25.6 (5.2) kg/m^2 (n=91)
Females: 31.3 (7.7) kg/m^2 (n=11)

Decrease in BMI after taking baseline into account
Expected change over the six month intervention phase (Phase 2) after taking Phase 1 (baseline) into account was
-0.38 kg/m^2 (95%CI: -0.76, -0.01) (n=91 male; 11 female) (726 obs)

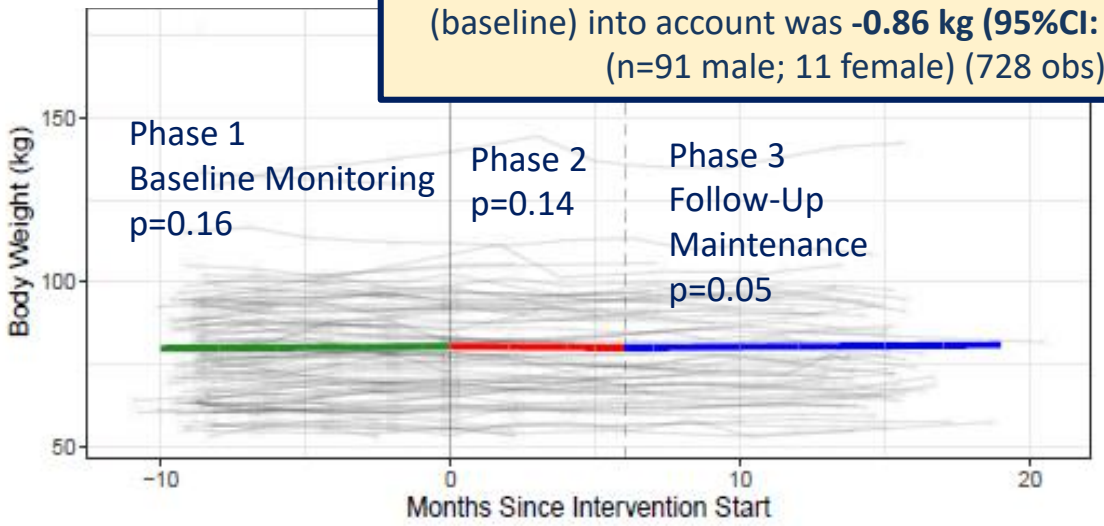
No change in BMI during the intervention phase (Phase 2) followed by no change in the follow-up (Phase 3).



CBE Adherence
Participants attended a median of 18/25 (72%) of weekly supervised sessions.

Body weight

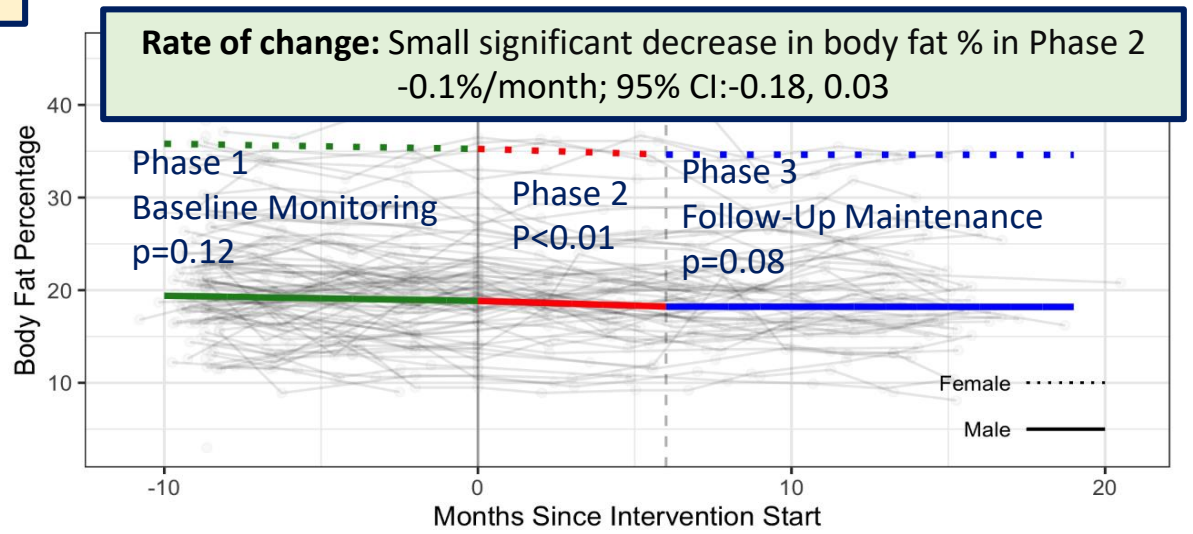
Change in body weight - Expected change over the six month intervention (Phase 2) after taking Phase 1 (baseline) into account was **-0.86 kg (95%CI: -1.76, 0.03)** (n=91 male; 11 female) (728 obs)



Body fat %

Change in body fat % - Expected change over the six month intervention (Phase 2) after taking Phase 1 (baseline) into account was **-0.28% (95%CI: -0.98, 0.42)** (n=91 male; 11 female) (726 obs)

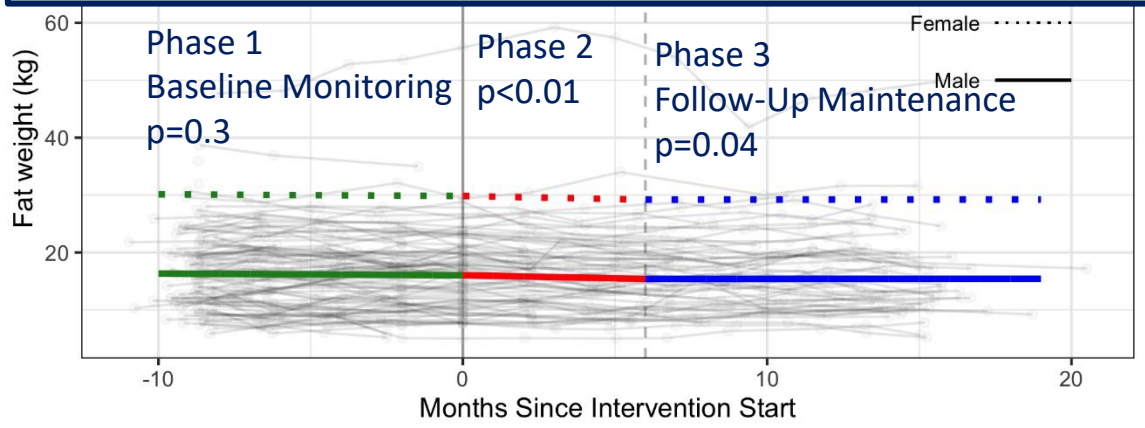
Rate of change: Small significant decrease in body fat % in Phase 2 -0.1%/month; 95% CI:-0.18, 0.03



Fat weight

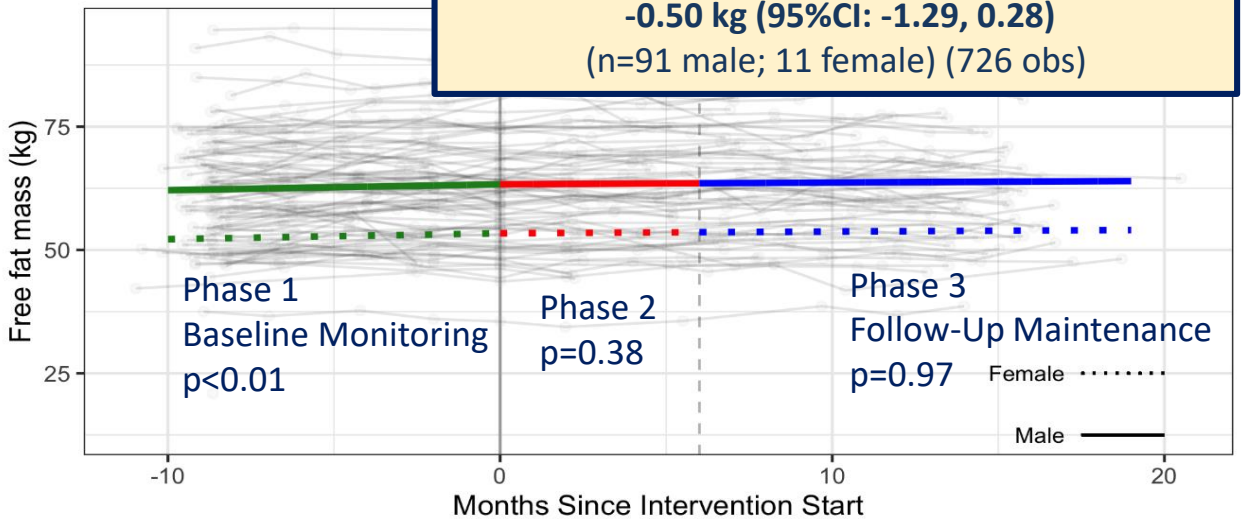
Change in Fat Weight - Expected change over the six month intervention (Phase 2) after taking Phase 1 (baseline) into account was **-0.45 kg (95%CI: -1.12, 0.21)** (n=91 male; 11 female) (726 obs)

Rate of change: Small significant decrease in fat weight in Phase 2 of -0.10/kg/month; 95% CI:-0.12, 0.21 (reduction in trend of benefits in Phase 3)



Fat free mass

Change in Fat Free Mass - Expected change over the six month intervention (Phase 2) after taking Phase 1 (baseline) into account was **-0.50 kg (95%CI: -1.29, 0.28)** (n=91 male; 11 female) (726 obs)



Results & Conclusions

CBE Community Based Exercise Research Study

Results: Change in Weight and Body Composition

- Little variation of weight and body composition within individuals over time.
- With the exception of a small improvement in BMI, there were no significant changes over the six month intervention phase (Phase 2) after taking Phase 1 (baseline) into account.
- Trends attributed to the intervention were observed for reductions in weight, fat weight, fat free mass, and body fat %.
- Small significant rate of decrease in fat weight and body fat % during Phase 2; but significant reduction in trend of benefits in Phase 3 for fat weight.

Conclusions

- Little to no change in weight and body composition across the three phases.
- This may be attributed to the intervention (not geared towards reduction in weight and body composition), resistive exercises, changes in muscle mass, or because the intervention dose was not high enough to affect a change.
- Type of Antiretroviral therapy use – not captured which can influence outcomes

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