INTRODUCTION

• There are currently over 14 million cancer survivors in the United States [1].
• Exercise helps combat physical and psychological effects of cancer treatments [2].
• High-intensity functional training (HIFT) is a promising group-based exercise method that utilizes multiple energy pathways by temporally combining aerobic and resistance training exercises.
• HIFT takes significantly less time than moderate intensity exercise due to increased exercise intensity [3].
• Potential benefits of HIFT programs include metabolic and physiological adaptations, such as improvements in body composition through increased post-exercise fat oxidation [4].
• To date, HIFT has not been tested among cancer survivors.

METHODS

Measures
During all exercise sessions
• Heart rate: participants wore heart rate monitors each session (Polar RX800CX)
• Measure of workout intensity

The week prior to and the week following the intervention
• Body composition:
  • Height (stadiometer)
  • Weight (digital scale)
  • Waist and hip circumferences (flexible tape)
  • Dual-energy X-ray absorptiometry scan
• Dietary Intake: Online Automated Self-Administered 24-hour recall (ASA24TM)

Workout Duration and Intensity
• Average workout length was 12 min (±1.14 sec); Range=5.8-20 min.
• Heart rate data were available for 10 workouts.
• Participants spent 30.4% of the workouts at a vigorous and 36.0% of the workouts at a very vigorous heart rate for age.

Body Composition (Table 2)
• Participant BMI ranged from 20.5 to 90.1 (±15.5) kg/m².
• Weight, BMI, and waist and hip circumferences did not change significantly.

Table 2. Changes in Body Composition (n = 6)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-test M (SD)</th>
<th>Post-test M (SD)</th>
<th>% Change</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (m)</td>
<td>1.72 (0.08)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>78.9 (22.3)</td>
<td>79.2 (22.7)</td>
<td>+0.4</td>
<td>0.513</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>26.4 (5.2)</td>
<td>26.5 (5.3)</td>
<td>+0.4</td>
<td>0.523</td>
</tr>
<tr>
<td>Waist Circumference (cm)</td>
<td>91.8 (21.1)</td>
<td>90.1 (15.5)</td>
<td>-0.9</td>
<td>0.515</td>
</tr>
<tr>
<td>Hip Circumference (cm)</td>
<td>104.8 (11.7)</td>
<td>104.3 (11.7)</td>
<td>-0.4</td>
<td>0.634</td>
</tr>
<tr>
<td>Waist-to-Hip Ratio</td>
<td>0.87 (0.11)</td>
<td>0.86 (0.06)</td>
<td>-0.4</td>
<td>0.740</td>
</tr>
<tr>
<td>Lean Mass (kg)</td>
<td>49.1 (10.6)</td>
<td>52.9 (12.2)</td>
<td>+7.5</td>
<td>0.008</td>
</tr>
<tr>
<td>Fat Mass (kg)</td>
<td>25.8 (13.1)</td>
<td>22.4 (12.5)</td>
<td>-15.0</td>
<td>0.001</td>
</tr>
<tr>
<td>Body Fat Percentage</td>
<td>33.2 (9.2)</td>
<td>28.5 (9.3)</td>
<td>-15.3</td>
<td>0.000</td>
</tr>
</tbody>
</table>

• Statistically significant changes included an increase in lean mass (t=4.32, p=0.008), and decreases in fat mass (t=7.91, p=0.001) and body fat percentage (t=9.39, p<0.001).

Dietary Intake
• Did not significantly change, although average calorie consumption increased slightly from pre-test (M=1956±581 kcal) to posttest (M=2357±923 kcal; t=2.57, p=0.124)

RESULTS

PURPOSE

The purpose of this study was to investigate the effects of a HIFT program on the body composition of adult cancer survivors within five years of last cancer treatment.

CONCLUSIONS

Five weeks of HIFT training was well-received by most cancer survivors and is a promising method for improving body composition. Future research should compare HIFT with low and moderate intensity exercise options in a larger sample and track body composition changes over a longer time period.

REFERENCES