Lifestyle Interventions in Supportive Care Across the Cancer Continuum

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Overview

• Lifestyle interventions in the Supportive Care of Cancer

• Considerations in Exercise and Dietary Behavior Change: The GMCB Intervention

• Feasibility & Efficacy of GMCB Lifestyle Interventions in cancer patients and survivors

• Where do we go from here? Future directions in implementing lifestyle interventions in cancer treatment
Exercise and Physical Activity Guidelines for Cancer Survivors

- Exercise is a safe, efficacious lifestyle intervention for cancer survivors
- 150 min of moderate, 75 min of vigorous PA/week, or a combination
- 2 days/week of strength training
- avoid inactivity
• 17 Studies in 1,175 patients undergoing chemotherapy, radiation, or combination treatment
• RE, AE, and Combined RE/AE resulted in meaningful improvements in fitness and QOL outcomes
• Similar magnitude improvement across exercise and treatment modes

Fairman, Focht et al. (2016). *J Supp & Comm Oncology*
• 15 Studies in 1,077 participants during or following cancer treatment

• RE resulted in meaningful improvements in fitness, physical function, fatigue, and QOL outcomes

Focht et al. (2013). *J Supp Oncology*
Lifestyle & Dietary Recommendations

• Maintain a healthy body weight; lean without being underweight

• Practice appropriate portion control

• Increase intake of fruits, vegetables, and whole grains

• Limit consumption of red/processed meats, sugar, salt, high caloric & low nutrient dense foods
• Cancer Survivors: ≤1/3 meet PA recommendations and 70% overweight/obese

• Integrating behavioral weight management approaches in cancer treatment has potential to impact millions of survivors

• Promoting successful adoption and maintenance of exercise and dietary behavior change is a key consideration in implementing weight management in cancer treatment

Ligibel et al. (2015). *J Clin Oncology*
Behavioral Adherence and Weight Management

- ≤ 20% overweight individuals successfully maintain weight loss
- 50% who adopt regular exercise drop out by 6 months
- **Self-regulation** integral to adherence: Many people unable to successfully self-regulate independent lifestyle behavior change
- Innovative approaches to promoting behavioral self-regulation are needed
Group-Mediated Cognitive Behavioral Intervention

Rejeski et al. (2003). *Health Psychology*
Key Elements of the GMCB

- SCT-based counseling approach to development & practice exercise/diet-related self-regulatory (SR) skills

- Harness the small group dynamics (GD) to foster social support, peer-initiated barrier problem solving, and motivation for SR lifestyle behavior change

- Systematically titrate away from primarily didactic and supervised exercise and dietary intervention contacts: promote autonomous practice and mastery of key SR skills

- Utilize the integration of SR and GD to promote adoption and maintenance of *independent* lifestyle behavior change
Developing the Lifestyle Self-Regulatory Tool Box

Planning Behavior Change & Adherence

1. GOAL SETTING
2. OVERCOMING BARRIERS
3. PREVENTING LAPSES
4. SELF-MONITORING
CHAMP: Rejeski et al. (2003) Hlth Psych

CLIP: Rejeski et al. (2011) Arch Intern Med

CLIP-II: Marsh et al. (2014) Contemp Clin Trials

GOALS: McDermitt et al. (2012) Contemp Clin Trials
Improving Maintenance of Physical Activity in OA Pilot Trial (IMPACT-P)

IMPACT-P was a single blind, 2 arm randomized controlled pilot trial

Determine the comparable efficacy of traditional exercise therapy (TRAD) and GMCB PA intervention approaches for improving PA and select OA outcomes in sedentary, older knee OA patients

Study was supported by NIAMS Grant # R21 AR054595
IMPACT: Design

Randomization

KNEE OA PTS (N=80)

3 Month

GMCB (N=40)

TRAD EX (N=40)

12 Month

GMCB (N=35)

TRAD EX (N=31)
Focht et al. (2014). *J of Rheumatology*
Androgen deprivation therapy (ADT) results in loss of muscle mass/strength and gain of body fat

Effects of ADT increase risk of sarcopenic obesity, CVD, metabolic syndrome, & mobility disability

Exercise has benefits for PCa patients on ADT: 1) challenge of promoting adherence; 2) comprehensive lifestyle approaches (EX+Diet) may be optimal

Could the **GMCB approach** to promoting lifestyle behavior change address these issues?
Lifestyle Weight Management Interventions in PCa Patients

- Exercise alone, diet alone, and combined exercise + diet interventions beneficial supportive care approaches for PCa patients

- Research addressing lifestyle exercise + diet interventions on physical function and anthropometric outcomes is limited

- Limited existing studies are characterized by poor adherence and retention and methodological limitations

Focht et al. (in press). *Energy balance in prostate cancer treatment*
Effects of Exercise on Disablement Process Model Outcomes in PC Patients on ADT

Focht et al. (2014). *J of Support Oncol*
DPM Domain | Outcome | Effect Size (d) |
---|---|---|
**Impairment** | Muscular Strength | 1.08 |
 | Muscular Endurance | 2.08 |
 | Balance | 0.73 |
 | Body Composition | 0.17 |
**Functional Limitations** | Performance Measures | 0.53 |
 | Self-Report Measures | 0.13 |
**Disability** | Self-Report (Fatigue Interference w/ADL) | 0.25 |

Dose of exercise: enough to attenuate, but not reverse, the deleterious effects of ADT on Body Composition

Focht et al. (2014). *J of Support Oncol*
Individualized Diet and Exercise Adherence-Pilot Trial (IDEA-P)

IDEA-P was a single blind, 2 arm randomized controlled pilot trial

Determine the effects of a GMCB Exercise & Diet intervention with standard of care in the treatment of 32 PC patients undergoing ADT

Study was supported by NCI Grant # R03 CA16296901
Baseline

Randomization

Exercise + Diet (N=16)
Usual Care (N=16)

2 Month FU

Exercise + Diet (N=14)
Usual Care (N=12)

3 Month FU

Focht et al. (2014). *Trials*
**Intervention Structure**

**EX+D**

<table>
<thead>
<tr>
<th>Adoption</th>
<th>Transition</th>
<th>Independent Maintenance</th>
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<tbody>
<tr>
<td>6 weeks</td>
<td>2 weeks</td>
<td>4 weeks</td>
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</tbody>
</table>

- Resistance and Aerobic Exercise 2x/week
- Behavioral/Dietary Counseling After Supervised Exercise
- Group counseling content to promote independent self-regulation of exercise and diet behavior
Outcomes

- Mobility Performance
- Resistance Exercise
- Self-Efficacy
- Satisfaction with Function
- Body Weight & Composition
Mobility Performance

Δ in 400M Walk (seconds)

- 2 Months
- 3 Months

Δ = \text{difference}

- EX+D
- Usual Care

- 2 Months
- 3 Months

Δ in Stair Climb (seconds)

- EX+D
- Usual Care

- 2 Months
- 3 Months

Δ = \text{difference}
Resistance Exercise

Δ in Sessions Per Week

<table>
<thead>
<tr>
<th></th>
<th>2 Months</th>
<th>3 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex+D</td>
<td><strong>d = 1.79</strong></td>
<td><strong>d = 1.78</strong></td>
</tr>
<tr>
<td>Usual Care</td>
<td><img src="250x250" alt="Yellow Bar" /></td>
<td><img src="250x250" alt="Yellow Bar" /></td>
</tr>
</tbody>
</table>

The bar chart shows the difference in sessions per week for Ex+D and Usual Care groups at 2 and 3 months. The effect size (d) is marked for each period.
Social Cognitive Outcomes

**Δ in Self Regulatory Self Efficacy**

- **2 Months**: d = 0.55
- **3 Months**: d = 0.56

**Δ in Satisfaction with Function**

- **2 Months**: d = 1.20
- **3 Months**: d = 1.30
Δ in Body Weight (kg) 3 Months

Δ in Body Fat% 3 Months

Δ in Fat Mass (kg) 3 Months
Mindfulness In Motion + Diet Trial (MIM)

MIM was a single arm pilot feasibility trial

Determine the effects of an 8 week MIM + Diet intervention in the treatment of 17 endometrial cancer survivors

Lucas et al. (2016). Integrative Cancer Ther
Mindfulness in Motion
A Daily Stress Reduction Program

Yoga
Stress Management
Integrated Group-based Diet Counseling

Maryanna D. Klatt, PhD, RYT
Associate Professor
The Ohio State University College of Medicine
Short Physical Performance Battery

MIM + Diet Intervention

Improvements in:
- PA & Dietary Behavior
- Physical function
- QOL

*p = <0.01*
Randomization

Future Directions: CLIP-OA

OBESE KNEE OA PTS (N=224)

GMCB EX+D (N=112)

AF Walk w/ Ease Program (N=112)

NIH

GMCB EX+D

AF Walk w/Ease Program

1 R01 AG050725-01A1

6 Months

18 Months
• Explore methods to personalize exercise and dietary prescription

• Delineate and personalize approaches to the behavioral needs of “problem self-regulators”

• Evaluate opportunities to integrate technology to optimize GMCB delivery & assessment
Considerations in Future Practice

• Adopt a continuous care approach
  • Integrate lifestyle interventions in part of routine clinical care

• Develop community-based delivery to provide continuing support via existing infrastructure

• Facilitate transition to community partners to promote continued support and independent maintenance
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