Evaluating Overweight/Obesity and Physical Activity Rates in an Ethnically Diverse Sample of Breast Cancer Survivors

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Outline

I. Statement of the Problem

II. Prevalence of Overweight/Obesity in the US and in SC

III. Prevalence of Overweight/Obesity in US Breast Cancer Survivors

IV. Study Purpose

V. Study Design

VI. Results

VII. New Research Direction
I. Statement of the Problem

• Too much energy in (calories) + too little energy out (physical activity) leads to:
  • Obesity
  • Increased risk of breast cancer relapse
  • Increased risk of death secondary to breast cancer
  • Increased risk of co-morbid illness such as DM
• Current standard treatments for breast cancer often result in weight gain
Inflammation in Cancer Associated with Obesity

- Healthy balance
- Unhealthy balance
- Obesity, Insulin Resistance
- AGE’s (IGF1, CRP, IL6)
- Inflammation
- Cancer risk & progression

Food intake
Physical activity
Healthy Diet & Exercise
II. Prevalence of Overweight/Obesity in the US

- Overweight is defined as a body mass index (BMI) of 25.0-29.9, while obesity is defined as a BMI $\geq 30.0$
II. Prevalence of Overweight/Obesity in the US (continued)

- Obesity has reached epidemic proportions in the US. (CDC 2009)
  - 49.6% of African American (AA) women are obese, compared to 33% of European American (EA) women
  - 37.3% of AA men are obese, compared to 31.9% of EA men

(US Census 2010; Cecchini et al. 2012; Khan et al. 2009)
II. Prevalence of Overweight/Obesity in the US (continued)

- SC has the 5\textsuperscript{th}-highest ranked level of obesity in the nation \textit{(OQIN Network Data)}
- When overweight and obesity data are combined, results show that 67.4\% of adults in SC ages 18+ years are obese, compared to 64.5\% nationally

(US Census 2010; Cecchini et al. 2012; Khan et al. 2009)
III. Prevalence of Obesity among US Breast Cancer Survivors

- In the US, 49% of breast cancer survivors are overweight/obese (Courneya et al. 2008)
IV. Study Purpose

- To examine prevalence of
  - Overweight/obesity
  - Level of physical activity (PA)

in a statewide sample of women within 18 months of a breast cancer diagnosis
Published BMI categories and 2008 PA guidelines were used to characterize BMI and PA guideline adherence in the study sample.
V. Study Design

- **Study Sample**
  - Women diagnosed with breast cancer in the past 18 months

- **Recruitment**
  - Women are identified, contacted and recruited through the South Carolina Central Cancer Registry
V. Study Design (continued)

- Variables at diagnosis obtained from SCCCR Include:
  - Date of diagnosis
  - Age at diagnosis
  - Stage
  - Height
  - Weight
  - Physical activity
  - ER status, PR status, Her2 status
  - Histologic grade of cancer
  - Race
  - Zip code
  - Treating physician of record (M.D.)
VI. Results

- 73 women (35 EA and 38 AA) breast cancer survivors were identified through the South Carolina Central Cancer Registry.
- Participants ranged in age from 26 to 90 years (mean 61.0 years, SD 13.2), with AAs 2.4 years younger than EAs (p=0.24).
- The majority (60.0%) had more than a high school diploma (50% of AAs and 68% of EAs, p=0.16).
VI. Results (continued)

- 77% of the women in the sample were overweight/obese
- AA were more likely than EA to be overweight/obese (p=0.03)
  - Among AA, 42% were overweight and 45% were obese
  - 86% were obese/overweight
  - Among EA, 31% were overweight and 34% were obese
  - 64% were obese/overweight
VI. Results (continued)

- Only 38% of the sample met national PA guidelines of at least 150 minutes/week of moderate PA (29% of AA and 47% of EA, p=0.11)
- Older age was significantly associated with lower risk of being overweight/obese (OR=0.95 per increased year of age, p=0.003) but this was significantly only among AA (Or=0.86, p=0.025)
- Prevalence of overweight/obesity was high, regardless of race but especially among younger AA
VI. Results (continued)

- Prevalence of overweight/obesity was high, regardless of race. It is imperative to identify strategies to reduce obesity/overweight in BRCA survivors.
VII. New Research Direction

- R01 grant application
- Study aims:
  - To evaluate the impact of PA on inflammatory biomarkers associated with breast cancer disease free survival
  - To assess the impact of increased PA levels on inflammatory biomarkers associated with breast cancer disease free survival
  - To evaluate the impact of increased physical fitness on inflammatory biomarkers associated with breast cancer disease free survival
VII. New Research Direction (continued)

- 24-week, evidence-based intervention, a customized program of exercise and education
  - Includes 2 components
    - Reduced-energy diet alone vs.
    - Reduced-energy diet plus PA intervention
- The intervention will be administered through cardiac rehabilitation (CR) programs at the OQIN-affiliated hospitals associated with the CTN sites

(Campbell et al. 2012)
## R01 Application Research Team

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