Biomarkers associated with sleep and fatigue symptoms in breast cancer survivors
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Background:
❖ Breast cancer (BC) is the most common cancer in women.
❖ 87% of BC survivors (BCS) report sleep and fatigue symptoms.
❖ Chemotherapy toxicity can alter melatonin and interleukin-6 (IL-6) which has been linked to sleep and fatigue symptoms.

Objective:
❖ Evaluate relationships between self-reported sleep quality, fatigue and circulating biomarkers (melatonin; IL-6) in BCS

Methods:
❖ Women who had completed Stage I-III BC treatment (6 to 10 years prior to enrollment) were recruited.
❖ All data were collected at one time point.
❖ Self-reported measures of sleep and fatigue were used:
  - Pittsburgh Sleep Quality Index (PSQI)
  - Epworth Sleepiness Scale (ESS)
  - Patient-Reported Outcomes Measurement Information System (PROMIS) Fatigue Scale
❖ Blood samples were processed/stored for biomarker analysis

Preliminary Findings:
❖ Participants were all female and mostly Caucasian (93.9%).
❖ The mean age was 48.44 (SD = 8.732) years.
❖ The mean number of hours from when the participant woke to when blood was drawn was 3.03 hours (SD = 0.90).
❖ 62.1% met the criteria for poor sleep (PSQI score ≥6).
❖ Sleep and fatigue will be further evaluated in relationship to IL-6 and melatonin during the Spring 2018 semester.

Conclusions and Next Steps:
❖ Follow up work could elucidate underlying mechanisms of long-term problems with sleep and fatigue in BCS.
❖ Biomarkers (IL-6, melatonin) will be quantified with a new, ultrasensitive platform SMCxPRO™ (Millipore)

References:
1. CDC, 2017
2. Palesh et al., 2012
3. Lang & Sateia, 2013
4. Ren, et al., 2017

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