

Abstract #1609

Relationship of physical activity and sleep quality to quality of life among cancer survivors: findings of the day and night study

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Abstract Text:

Background: Diet and lifestyle may have a role in quality of life for cancer survivors. This study compared diet, physical activity and sleep quality between cancer survivors and controls, and the relationship to quality of life.

Methods: Participants were recruited from southern Virginia. (1)Diet, physical activity, sleep quality (Pittsburgh Sleep Quality Index,psqi), and quality of life (QOL,SF-36) surveys were completed, (2)data on sleep/wake patterns and ambient light exposure was collected by an actigraphy-based data logger worn 7 days, (3)fasting blood and morning urine samples were collected for Vitamin D and urine melatonin analysis. Lower sleep quality scores indicate better sleep quality.

Results: 131 cancer survivors and 41 controls participated in the study. Participants were majority female (89%), 24% black, with mean age of 59 years. Cancer sites included breast (68%), colon (8%), prostate (6%), lung (4%), and other (14%). Survivors had higher BMI compared to controls (29.6 vs 17.1 km/m², $p=0.036$), and were more likely to be sedentary $\chi^2[(2,N=172)11.11,p=0.004]$. Calorie and macronutrient intake did not differ.

Survivors had worse sleep quality than controls (psqi=6.6 vs 4.9, $p=0.02$) and lower physical (263.8 vs 323.5, $p<0.0001$) and mental QOL composite scores (295.4 vs 340.4, $p=0.002$). Sleep quality scores were inversely associated with mental and physical QOL (-0.48 & -0.43, $p<0.0001$). Physical activity was directly correlated with mental and physical QOL ($R=0.21$ & $R=0.22,p=0.006$). Melatonin was lower in survivors (32.4 vs. 52 ng/mg, $p=0.002$). Serum Vitamin D3 correlated with ambient light exposure ($R=0.184,p=0.02$) and outdoor physical activity ($R=0.16,p=0.05$)

Conclusions: Cancer survivors were more sedentary, had poorer quality of sleep and quality of life than controls. Physical activity and sleep quality were associated with quality of life, which has implications for physical activity and sleep behavior recommendations for cancer survivors. Vitamin D3 is a potential biomarker of outdoor physical activity.

Keywords: Physical activity, sleep quality, quality of life