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Georgia Southern Examines Muscle-Strengthening and Aerobic Activities and Mortality in Cancer Survivors

May 4, 2018



This study examined the association between adherence to American College of Sports Medicine and American Cancer Society guidelines on aerobic and muscle-strengthening activities and mortality risks among 3+ year cancer survivors in the U.S.

The observational study was based on 1999–2009 National Health Interview Survey Linked Mortality Files with follow-up through 2011. After applying exclusion criteria, there were 13,997 observations. The hazard ratios (HRs) for meeting recommendations on muscle-strengthening activities only, on aerobic activities only, and on both types of physical activity (i.e., adhering to complete guidelines) were calculated using a reference group of cancer survivors engaging in neither. Unadjusted and adjusted HRs of all-cause, cancer-specific, and cardiovascular disease-specific mortalities were estimated using Cox proportional hazards models.

In all models, compared to the reference group, cancer survivors adhering to complete guidelines had significantly decreased all-cause, cancer-specific, and cardiovascular disease-specific mortalities (HRs ranged from 0.37 to 0.64, p 's < 0.05). There were no statistically significant differences between hazard rates of cancer survivors engaging in recommended levels of muscle-strengthening activities only and the reference group (HRs ranged from 0.76 to 0.94, p 's > 0.05). Wald test statistics suggested a significant dose–response relationship between levels of adherence to complete guidelines and cancer-specific mortality.

While muscle-strengthening activities by themselves do not appear to reduce mortality risks, such activities may provide added cancer-specific survival benefits to 3+ year cancer survivors who are already aerobically active.

“[Muscle-strengthening and aerobic activities and mortality among 3+ year cancer survivors in the U.S.](#),” was recently published in *Cancer Causes & Control*.

Dr. Yelena N. Tarasenko, Associate Professor of Epidemiology at the Jiann-Ping Hsu College of Public Health Georgia Southern University, was the lead on this study. Dr. Daniel F. Linder, Assistant Professor of Biostatistics at the Medical College of Georgia, Augusta University, and Dr. Eric A. Miller at the National Cancer Institute were co-authors.

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