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Original article

Physical activity and television watching in relation to semen quality in young men

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Abstract

Background Semen quality appears to have declined over the past decades but reasons for this decline are unresolved. The concurrent increase in sedentary behaviour may be a contributing factor. The objective of this study was to evaluate the relationship of physical activity and television (TV) watching with sperm parameters in a population of young, healthy men.

Methods Men aged 18–22 years (n=189) from the Rochester Young Men's Study (2009–2010) participated in this analysis. Physical activity (h/week of moderate and vigorous exercise) and TV watching (h/week of TV, video or DVD watching) over the past 3 months were assessed via questionnaire. Semen quality was assessed by sperm concentration, motility, morphology and total sperm count.

Results Sperm concentration and total sperm count were directly related to physical activity after multivariable adjustment (p-trend=0.01 and 0.04); men in the highest quartile of moderate-to-vigorous activity (≥ 15 h/week) had 73% (95% CI 15% to 160%) higher sperm concentration than men in the lowest quartile (<5 h/week). TV watching was inversely associated with sperm concentration and total sperm count in multivariable analyses (p-trend=0.05 and 0.06); men in the highest quartile of TV watching (>20 h/week) had 44% (95% CI 15 to 63%) lower sperm concentration than men in the lowest quartile (0 h/week). These measures of physical and leisure time activities were not significantly associated with sperm motility or morphology.

Conclusions In this population of healthy men, higher moderate-to-vigorous activity and less TV watching were significantly associated with higher total sperm count and sperm concentration.

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