Avoidable cancers in the Nordic countries—the potential impact of increased physical activity on postmenopausal breast, colon and endometrial cancer

Background: Physical activity has been shown to reduce the risk of colon, endometrial and postmenopausal breast cancer. The aim of this study was to quantify the proportion of the cancer burden in the Nordic countries linked to insufficient levels of leisure time physical activity and estimate the potential for cancer prevention for these three sites by increasing physical activity levels. Methods: Using the Prevent macrosimulation model, the number of cancer cases in the Nordic countries over a 30-year period (2016–2045) was modelled, under different scenarios of increasing physical activity levels in the population, and compared with the projected number of cases if constant physical activity prevailed. Physical activity (moderate and vigorous) was categorised according to metabolic equivalents (MET) hours in groups with sufficient physical activity (15+ MET-hours/week), low deficit (9 to <15 MET-hours/week), medium deficit (3 to <9 MET-hours/week) and high deficit (<3 MET-hours/week). Results: If no one had insufficient levels of physical activity, about 11,000 colon, endometrial and postmenopausal breast cancer cases could be avoided in the Nordic countries in a 30-year period, which is 1% of the expected cases for the three cancer types. With a 50% reduction in all deficit groups by 2025 or a 100% reduction in the group of high deficit, approximately 0.5% of the expected cases for the three cancer types could be avoided. The number and percentage of avoidable cases was highest for colon cancer. Conclusion: 11,000 cancer cases could be avoided in the Nordic countries in a 30-year period, if deficit in physical activity was eliminated.