



Correspondence

Re: Letter to the Editor: The population attributable risk of cancers for lack of physical activity in Canada by Michel D. Wissing


ARTICLE INFO

Keywords:

Cancer
Physical Activity
Population Attributable Risk
Prevention
Systematic Reviews
Meta-analyses

We thank Dr. Wissing for his overall positive comments regarding our recent publication from the ComPARE study (Friedenreich et al., 2019) on the current and future burden of cancer in Canada that can be attributed to a lack of physical activity. The analyses conducted in the ComPARE study (Brenner et al., 2018) were based on extensive literature reviews that included meta-analyses done by international agencies such as the World Cancer Research Fund and the International Agency for Research on Cancer as well as other large scale meta-analyses or pooled analyses such as those done by Moore and colleagues (Moore et al., 2016) that were relevant for physical activity. The IARC Handbook Volume 6 (IARC, 2002) was focused on physical activity and weight control, which was early evidence for the importance of this risk factor for consideration in the ComPARE study. For the analysis of this paper on a lack of physical activity, we also had access to the meta-analyses and pooled analyses that were reviewed by the Cancer Subcommittee for the 2018 Physical Activity Guidelines for Americans (PAGA) for which Dr. Friedenreich was a member (U.S. Department of Health and Human Services, 2018). That review was used to develop the 2018 PAGA and was published as a scientific paper (McTiernan et al., 2019). We found strong evidence for an association between inadequate physical activity and cancer risk for seven cancer sites, moderate evidence for an association with lung cancer and limited evidence for four other sites.

There was considerable discussion during the PAGA Cancer Subcommittee's review of the evidence regarding the association between physical activity and lung cancer and the conclusion of this review group was that the evidence could be classified as moderate. Whilst we agree that confounding by smoking needs to be considered for any cancers that are strongly associated with this risk factor, sufficient evidence does exist for an independent beneficial effect of physical activity for lung cancer risk reduction. We also note that even if the protective effect of physical activity on lung cancer is restricted to smokers (as done in the Moore et al. paper (Moore et al., 2016)), a sizeable burden remains since about half of the Canadian population are either current or former smokers. Therefore, although using a risk estimate that is not fully adjusted for smoking over-estimates the PAR of

lung cancer, excluding this association can under-estimate the cancer burden due to a lack of physical activity. Nevertheless, we agree with Dr. Wissing's comment that our estimates can be interpreted as "the maximum number of cancers potentially attributable to inadequate physical activity" and with his comment that 2.7% would be "a conservative estimation".

It is important to emphasize, however, that the scientific literature on the association between a lack of physical activity and cancer incidence has been increasing rapidly as documented in the PAGA. In the 2008 PAGA report (U.S. Department of Health and Human Services, 2008), there were only four cancers reviewed for associations with physical activity and by 2018 this number had increased to 16 cancers. Hence, the burden of cancer that is associated with physical activity is expected to increase over the next decade given the documented decreases in physical activity levels amongst Canadians and the growth in evidence for associations with different cancer sites. A strong rationale exists, therefore, for action on increasing population levels of physical activity to reach the recommended levels for all Canadians. The ComPARE study provides quantifiable targets for decreasing the future burden of cancer associated with physical activity that can be used in cancer prevention programs and policies. Hence, rather than seeking to minimize the burden of cancer that is associated with physical activity, we suggest that these estimates may, in fact, be underestimates.

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<https://doi.org/10.1016/j.ypmed.2019.105761>

Received 14 June 2019; Accepted 24 June 2019

Available online 30 June 2019

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