

Why the Canadian Sedentary Behaviour Guidelines Should Reflect Sex and Gender

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ABSTRACT

The world's first evidence-based sedentary behaviour guidelines were released in Canada in 2011. Based on evidence that time spent in sedentary pursuits poses important health risks, the guidelines recommend limits on the time that children and youth are sedentary throughout the day. Although the guidelines reflect differences in age, they do not include recommendations for adults, nor engage with other important determinants of health such as sex and gender, despite research suggesting that girls and boys, women and men, engage in different sedentary behaviours. For example, it has been suggested that girls spend considerable time in communication-based sedentary behaviours such as talking on the phone, texting and instant messaging, while boys are more likely to watch television and videos, or play computer games. There is also evidence suggesting that the health outcomes associated with sedentary behaviour differ for females and males, and there are gendered social and economic barriers that may influence sedentary behaviour. It is therefore time to consider sex and gender in research and policy on sedentary behaviour in order to effectively reduce time spent sedentary and to improve the health of women and men in Canada.

KEY WORDS: Sedentary behaviour; sex; gender; health promotion; policy

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In the past decade, sedentary behaviour has emerged as a distinct health concern,¹ yet health promotion researchers, policy makers and practitioners have only begun to pay attention to it quite recently. Importantly, sedentary behaviour is distinct from both physical activity and physical inactivity. Whereas physical inactivity is a broad category that can be used to characterize groups of people whose level of activity falls below a given threshold, sedentary behaviours are specific practices characterized by little physical movement and low energy expenditure such as sitting and watching television, using a computer, reading, occupational sitting and using motorized transportation.² A review of promising interventions in sedentary behaviour conducted by the British Columbia Centre of Excellence for Women's Health in 2012/2013 suggests that there are currently few health promotion interventions targeting sedentary behaviour; in fact, the majority of interventions in the field focus on increasing physical activity, not reducing sedentary time or sedentary behaviours per se.

In 2011, the Canadian Society for Exercise Physiology (CSEP), in collaboration with ParticipACTION and with support from the Public Health Agency of Canada, undertook a literature review on sedentary behaviour that informed the world's first evidence-based sedentary behaviour guidelines.³ Designed for children and youth aged 0-17 years, the guidelines suggest that children and youth should spend no more than 1-2 hours per day on recreational screen time (depending on age) and that time spent on sedentary transportation and extended sitting should be limited throughout the day.³ Although guidelines on sedentary behaviour are encouraging, we note that the CSEP guidelines do not consider adults, despite data suggesting that the majority of adults spend a consid-

erable amount of time being sedentary each day, nor sex and gender, despite compelling evidence for the integration of a sex- and gender-based approach to research and policy on sedentary behaviour. We argue that the current guidelines need to be expanded to consider the impact of sex and gender in sedentary behaviour and that guidelines for adults should be developed in order to increase the efficacy of research, policy and practice in reducing sedentary behaviours and their negative health outcomes. We also argue that there is a need to consider women's and men's diversity as well as to address their differential access to resources, opportunities and power as these factors may shape sedentary behaviour. "One-size-fits-all" approaches that do not understand and address unfair differences may not only lead to ineffective interventions but also to policies and practices that deepen health disparities and inequities.

Sex and gender considerations in sedentary behaviour

Accelerometer results from the Canadian Health Measures Survey (CHMS) 2007-2009 suggest that women and men are equally sedentary: men spend on average 9.6 hours per day sedentary and women spend 9.8 hours.⁴ Girls and boys (aged 6-19 years) spend less time in sedentary pursuits but are also equally sedentary (8.5 hours for boys; 8.7 hours for girls).⁵ Although these data pro-

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vide a brief glimpse into girls', women's, boys' and men's sedentary time, they do not explain why these patterns exist nor what behaviours women and men engage in, how they may differ, and why. In the literature, however, we find that women and men in fact tend to engage in different sedentary behaviours. For example, more men than women report being frequent users of computers and television, while women are more likely to report sedentary time spent reading.⁶ Females also tend to spend more time in communication-based sedentary behaviours such as talking on the telephone, texting and instant messaging,⁷ but also while engaging in arts, crafts⁸ and personal care.⁹

Factors such as how workplaces, schools, communities and transportation systems are organized are likely to influence sedentary behaviour. Developments in transportation, communication and the structure and organization of workplaces and schools have essentially created reduced demands for physical activity and thus encourage (or even mandate) sedentary behaviour. Family environment and neighbourhood environment are also important factors, which may affect, and encourage, females' and males' sedentary time differently. For example, poor neighbourhoods and those that are perceived as less safe tend to have higher rates of television viewing¹⁰ and it is possible that girls and women may have less power and entitlement to move with safety in some neighbourhoods and may therefore spend more time sedentary.

Sex differences in health risks associated with sedentary behaviour

Sedentary behaviour has been linked to increased risk of a number of chronic conditions including type 2 diabetes mellitus,¹¹ some cancers,² and cardiovascular disease,^{11,12} and has also shown to be adversely associated with mental well-being.¹³ Although both women and men are at risk of developing these health outcomes, research suggests that there are sex-specific correlations between some health risks and sedentary behaviour. For women, sedentary time has been associated with increased risk of endometrial cancer² and ovarian cancer.¹⁴ One study showed that women who were sitting more than 8 hours per day had a 52% increased odds of endometrial cancer when compared to those sitting fewer than 4 hours per day.¹⁵ For men, sedentary behaviour has been associated with an increased risk of colon² and prostate cancers.¹⁶ Studies of cardiovascular disease are also revealing of sex-specific health outcomes associated with sedentary behaviour. For example, high levels of television watching have been shown to predict fatal and non-fatal cardiovascular disease in both men and women. Yet, for women, there was a detrimental, dose-response association between television viewing time and 2-hour plasma glucose and fasting insulin.¹² There are also sex differences in mental well-being. One study focusing on selected non-occupational sedentary behaviours (TV watching, travel and computer use) found that that all types of sitting time were adversely associated with mental well-being in women, independent of potential confounders such as physical activity. For men, however, only computer use was found to be associated with adverse mental well-being.¹³

These findings suggest that sex-disaggregated and gender-informed analyses are important for understanding and addressing sedentary behaviour, and that research, guidelines and policy in the field might be more effective if a sex- and gender-informed approach were adopted. This includes producing sex- and gender-

sensitive sedentary behaviour guidelines that consider the differences, and similarities, between women and men, boys and girls, but also other determinants such as social, economic and gendered barriers that could influence their sedentary behaviour.

CONCLUSION

Results from Canadian population surveys such as the CHMS (2007-2009) suggest that women and men spend, on average, an equal amount of time sedentary per day, but the literature further suggests that they have different reasons for being sedentary, that they engage in different behaviours, and experience different health outcomes associated with sedentary behaviour, some of which are related to differences in the reproductive systems.

We argue that girls' and boys', women's and men's tendencies to engage in different behaviours should be recognized in policies and practices, including the Canadian Sedentary Behaviour Guidelines, and we encourage potential future guidelines to take these differences into consideration. Effective policies would have to be built on an understanding of girls' and boys', women's and men's daily lives and their opportunities for reducing sedentary time. This requires a solid research base on whether and how adults' behaviours differ from those of children and youth, from which to build policy directions and suggest interventions specific to the issue of sedentary behaviour. This includes the collection of quantitative evidence to better understand whether the guidelines should also be quantitatively different.

Additionally, we recognize the need for intense and targeted health communication campaigns to accompany these guidelines, possibly with messages tailored to girls and boys, women and men separately so that each group is able to see that the message applies to them. Current strategies and health communication campaigns that fail to engage with the ways that sex and gender may contribute to the health problem could be less effective in addressing sedentary behaviours in the population. For example, if sedentary behaviour is regularly associated with the concept of "screen time", as it is in some health communications directed at children and youth, and girls or women spend less time using computers than boys and men, it is conceivable that the health messages could be interpreted as irrelevant to girls and women. Sex and gendered aspects of sedentary behaviour can be further complicated by variables such as age, neighbourhood socio-economic status, income and total physical activity, suggesting that sedentary behaviours, like all health practices, are deeply influenced by social, physical and economic conditions. When developing programs and recommendations designed to limit sedentary behaviour, researchers and policy makers should therefore consider a range of determinants as well as recognize the various barriers that women and men may face in reducing their sedentary time. Failure to do so may result in ineffective interventions, and policies and practices that deepen health disparities and inequities rather than reducing them. Additionally, policies and health communication campaigns with messages about sedentary behaviour should be embedded in structural approaches to change the social and built environment, as the problem with sedentary behaviour is not merely avoiding a select set of behaviours but rather addressing an entire way of life. Changes in organizational practices and the built environment are therefore important to make Canadian society less supportive of sedentary living.

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RÉSUMÉ

Les premières lignes directrices au monde sur le comportement sédentaire qui sont fondées sur des données probantes ont été publiées au Canada en 2011. Comme ces données montrent que le temps consacré à des activités sédentaires pose des risques importants pour la santé, les lignes directrices recommandent de limiter le temps où les enfants et les jeunes sont sédentaires pendant la journée. Bien que ces lignes directrices tiennent compte des différences d'âge, elles n'incluent pas de recommandations pour les adultes et n'abordent pas d'autres déterminants importants de la santé, comme le sexe et le genre, malgré les études qui tendent à montrer que les filles et les garçons, les femmes et les hommes, ont des comportements sédentaires différents. Les données montrent par exemple que les filles consacrent beaucoup de temps à des comportements de communication sédentaires, comme parler au téléphone, texter et envoyer des messages instantanés, tandis que les garçons ont plus tendance à regarder la télévision ou des vidéos ou à jouer à des jeux sur ordinateur. Les données montrent aussi que les résultats de santé associés aux comportements sédentaires diffèrent selon le sexe, et qu'il existe des obstacles sociaux et économiques sexospécifiques qui peuvent influencer la sédentarité. Il est donc temps d'examiner le sexe et le genre dans la recherche et les politiques sur les comportements sédentaires afin de véritablement réduire le temps consacré à des activités sédentaires et d'améliorer la santé des femmes et des hommes au Canada.

MOTS CLÉS : comportement sédentaire; sexe; genre; promotion de la santé; politique