

## School-based programs to reduce screen time: Evidence and implications for public health

### Review on which this evidence summary is based:

Friedrich R.R., Polet J.P., Schuch I., & Wagner M.B. (2014). **Effect of intervention programs in schools to reduce screen time: A meta-analysis.** *Jornal de Pediatria*, 90(3), 232-241.

### Review Focus

- P** Children and adolescents (aged 4-19) who are in school
- I** School-based programs focused on changes in sedentary behaviour to reduce screen time, and interventions focused on obesity prevention and lifestyle changes through nutrition education and physical activity
- C** Usual program in schools
- O** Change in screen time spent on activities such as television, playing videogames, computer, and playing video games

### Review Quality Rating:

9 (strong) *Details on the methodological quality are available [here](#).*

### Considerations for Public Health Practice

#### Conclusions from Health Evidence

This meta-analysis of strong methodological quality is based on 16 poor-quality randomized control trials (RCTs) that included 8785 participants.

Overall, interventions showed a small, but statistically significant reduction in screen time (Standardized Mean Difference (SMD): **-0.25**, 95% -0.37, -0.13, **p<0.01**), that ranged from a small effect -0.13 to a moderate effect -0.37.

#### General Implications

The overall findings suggest that public health *should* promote school-based programs to reduce screen time among children aged 4 to 19.

However, it is unclear from this review which aspects of school-based programs (i.e. obesity prevention and/or changes in lifestyle through nutrition education and physical activity), are associated with changes in sedentary behaviour and in particular reduced screen time.

The poor quality of the included trails may also have resulted in an overestimation of the treatment effect, therefore the results should be used with caution.

### Evidence and Implications

#### What's the evidence?

- 1. Outcome: Change in Screen Time (16 RCTs, 8785 participants)**
  - School-based programs resulted in statistically significant reduced screen time (SMD **-0.25**, 95% -0.37, -0.13, **p<0.01**).

#### Implications for practice and policy

- 1. Outcome: Change in Screen Time**
  - Public health should support and promote school-based programs as a strategy to reduce screen time among children and adolescents.

**Legend:** P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk

\*\*For definitions see the [healthevidence.org glossary at http://www.healthevidence.org/glossary.aspx](http://www.healthevidence.org/glossary.aspx)

## Why this issue is of interest to public health:

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In Canada, the growing sedentary behaviours of children and adolescents are an increasing public health concern. Canadian children and youth get an average of 7 hours and 48 minutes of screen time per day and only 19% of children aged 10-16 meet the recommended maximum of 2 hours of recreational screen time per day.<sup>1,2</sup> Long periods of screen time are associated with negative effects on physical health and health behaviours, such as elevated blood pressure and cholesterol, metabolic syndrome and obesity.<sup>2</sup> Furthermore, sedentary screen time is likely to displace time available for physical activity and lead to more sedentary behaviours and compromised fitness later in adolescence and adulthood.<sup>3</sup> The increased sedentary behaviours of children, and the variety of associated lifestyle-related conditions, have the potential to increase demand on the health care system.<sup>4</sup>

1. Canadian Society for Exercise Physiology (2011). *Canadian Sedentary Behaviour Guidelines*. Retrieved from [http://www.csep.ca/CMFiles/Guidelines/SBGuidelinesBackgrounder\\_E.pdf](http://www.csep.ca/CMFiles/Guidelines/SBGuidelinesBackgrounder_E.pdf)
2. Active Health Kids Canada (2012). *Is Active Play Extinct? 2012 Active Health Kids Canada Report Card on Physical Activity for Children and Youth*. Retrieved from <http://dvqdas9jty7g6.cloudfront.net/reportcards2012/AHKC%202012%20-%20Report%20Card%20Long%20Form%20-%20FINAL.pdf>
3. Active Health Kids Canada (2014). *The 2014 Active Health Kids Canada Report Card on Physical Activity for Children and Youth*. [http://dvqdas9jty7g6.cloudfront.net/reportcard2014/AHKC\\_2014\\_ReportCard\\_ENG.pdf](http://dvqdas9jty7g6.cloudfront.net/reportcard2014/AHKC_2014_ReportCard_ENG.pdf)
4. The Conference Board of Canada (2014). *The Economic Impact of Reducing Physical Inactivity and Sedentary Behaviour*. Retrieved from [http://wraln.com/userContent/documents/6436\\_MovingAhead\\_Economic%20ImpactBR-EN.pdf](http://wraln.com/userContent/documents/6436_MovingAhead_Economic%20ImpactBR-EN.pdf)

*Other quality reviews on this topic are available on [healthevidence.org](http://healthevidence.org).*

## Suggested citation:

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*This evidence summary was written to condense the work of the authors of the review referenced on page one. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.*

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