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Abstract Title: Accelerometry-measured physical activity and sedentary behaviour of Nova Scotia preschoolers

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Introduction

The early years (0 to 4 years) are a critical period for establishing healthy and lifelong physical activity behaviours. Increasing evidence is emerging on the physiological, psychological and socio-emotional health benefits of physical activity during the early years (Carson et al., 2017), and recently 24-hour movement guidelines for this age group were released (Tremblay et al., 2017). According to these guidelines, preschoolers should accumulate at least 180 minutes of physical activity (of which at least 60 is moderate-vigorous physical activity), engage in no more than 1 hour of screen time, and obtain 10 to 13 hours of sleep, per day. 24-hour movement guidelines are also available for school-aged children and youth (age 5 to 17 years), where the emphasis changes to accumulating at least 60 minutes of moderate-vigorous physical activity per day (Tremblay et al., 2016). According to data from the Canadian Health Measures Survey, 61.8% of preschoolers (Chaput et al., 2017), and 36.0% of school-aged children and youth (Roberts et al., 2017), met the physical activity guidelines. While National, and Provincial (i.e. Ontario) accelerometry-measured physical activity data on preschoolers and school-aged children and youth exist, the accelerometry-assessed physical activity and sedentary behaviour profiles of Nova Scotia preschoolers (age 3 to 5 years) are unknown.

Objectives

Describe the accelerometry-measured physical activity and sedentary behaviour of Nova Scotia preschoolers and examine adherence with physical activity guidelines.

Methods

Baseline data of the Physical Literacy in the Early Years project were used. Children wore accelerometers (ActiGraph wGT3X+) during waking hours for nine consecutive days. Total time sedentary, in light physical activity, in moderate-vigorous physical activity, total physical activity, and average steps per day, were calculated. Physical activity guideline adherence was determined according to age-appropriate movement guidelines.

Results

A total of 128 preschoolers (mean age = 3.8 years; 60.5% males) had valid accelerometry data. Preschoolers spent 71% of their day active (38% of which was light physical activity, and 33% of which was moderate-vigorous physical activity), and 29% of their day sedentary, and accumulated an average of 7,636 steps per day. All children met the physical activity guidelines. Physical activity behaviour did not differ significantly by age or sex.

Conclusion

All Nova Scotia preschoolers in our sample met the age-appropriate physical activity recommendations, a finding that contradicts other accelerometry-measured physical activity estimates of Canadian children aged 3 to 5 years. Differences in sample characteristics and seasonality may partially explain these findings.

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