

The Research File



Summary from the Canadian Fitness and Lifestyle Research Institute and ParticipACTION

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Physical Activity at Childcare among Preschool-aged Children



Regular physical activity during the preschool-age period is important for establishing a foundation of healthy lifestyle patterns for childhood and into adulthood.¹ Despite the known benefits of regular physical activity, the majority of Canadian school-aged children are not sufficiently active to meet national guidelines,² potentially reflecting behaviours established during preschool ages. Few physical

activity guidelines currently exist specifically for preschool aged children, however, and none make recommendations for physical activity specific to the child care setting.^{1,3}

A growing body of literature describes the link between physical activity levels of preschool-aged children and characteristics of child care centres.¹ In 2002–2003, 54% of Canadian preschool-aged children (6 months to 5 years) received childcare (an increase from 42% in 1994–1995), with 30% of children receiving this care outside the home.⁴ As well, preschool children

are more likely to spend more hours in childcare than older children who attend school during the day. The childcare setting increasingly represents an opportunity to promote physical activity and early development of healthy behaviours.

A recent US study¹ by McWilliams and colleagues set out to develop and test a set of best practice guidelines, the Nutrition and Physical Activity Self-Assessment for Child Care (NAPSACC), for preschool children in 96 childcare centres in North Carolina. In accordance with NAPSACC Best Practices, eight characteristics of the child care settings were evaluated:

Active opportunities—daily opportunities that may result in increased physical activity

- Children should be provided with at least 120 min of physical activity daily
- Outdoor activities should be provided ≥ 2 times daily
- Teacher-led physical activity should be provided ≥ 2 times daily

Fixed play environment—equipment which is fixed in the indoor and outdoor environment

- A variety of fixed play equipment should be available to all children



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- Outdoor play spaces should include open, grassy areas and a track/path for wheeled toys
- Indoor space available for all activities, including running

Portable play environment—equipment that can be transported and used in various locations

- Large variety of portable play equipment available for simultaneous use by all children
- Outdoor portable equipment freely available to all children at all times

Sedentary opportunities—daily opportunities that may result in decreased physical activity

- Children should not be seated for periods >30 minutes
- Televisions or videos rarely or never shown

Sedentary environment—items in the environment that may discourage physical activity

- Display of sedentary equipment (e.g., televisions and videos) should be limited
- Promotional resources (e.g., posters and pictures) should be displayed openly

Staff behaviour—interactions between staff and children that may promote/discourage physical activity

- Staff should participate with children in all active play
- Staff should encourage children to be active
- Active time should never be withheld as punishment, but should be offered as reward

Physical activity training/education—training or education of staff, children and parents that may increase participation in physical activity

- Physical activity education to be provided to children via standardized curriculum ≥ 1 time per week
- Physical activity education opportunities to be provided to parents ≥ 2 times per year

Physical activity policies—written policies available from centres that address facilitation of physical activity

- Physical activity training (in addition to playground and safety training) should be provided to staff ≥ 2 times per year
- Written policies on physical activity should be available and followed

The authors found that most centres in their sample met only a few of the best practice guidelines. Nearly all centres offered climbing structures, sandboxes, and open spaces in their fixed play environment; some variation appeared in the amount and types of other equipment (particularly portable equipment) available. The NAPSACC recommends provision of an indoor play environment that allows for unrestricted physical activities. The majority of centres, however, had indoor play environments that limit active play. This may be a particular limitation during periods of inclement outdoor conditions that restrict access to outdoor facilities (e.g., rain, cold, poor air quality, etc.).

Further, many centres provided and used equipment that encouraged sedentary activity (e.g., televisions),

and fewer than half displayed material promoting physical activity. On the other hand, children were not seated for more than 30 minutes at a time at most centres.

Additionally, while many child care facilities have formal physical activity policies, some policies were vague about how physical activity should be implemented by staff. A minority of childcare centres had a clear physical activity curriculum. Few facilities had any staff trained specifically in physical activity for preschoolers, and staff at many centres infrequently engaged or led the children in active play.

More info...

¹ McWilliams, C., Ball, S.C., Benjamin, S.E., Hales, D., Vaughn, A. & Ward, D.S. (2009). Best-Practice Guidelines for Physical Activity at Child Care. *Pediatrics*, 124, 1650-1659.

² Canadian Fitness & Lifestyle Research Institute. (n.d.). Activity levels of Canadian children [bulletin]. Kids Can Play: Encouraging Children to Be Active at Home, School and in their Communities. Available at: http://www.cflri.ca/eng/programs/canplay/documents/CANPLAY_2008_b1.pdf.

³ Timmons, B.W., Naylor, P. & Pfeiffer, K.A. (2007). Physical activity for preschool children—how much and how? *Applied Physiology, Nutrition, and Metabolism*, 32, S122-S134.

⁴ Bushnik, T. (2006). Child Care in Canada [cat no. 89-599-MIE2006003]. Ottawa: Statistics Canada. Available at: <http://www.statcan.gc.ca/pub/89-599-m/89-599-m2006003-eng.pdf>.

What have we learned?

- Further research surrounding the amount and type of physical activity for pre-school aged children is warranted given the rising rates of overweight and obesity in children.
- Higher proportions of preschool aged children are attending child care outside the home and so national guidelines for physical activity are necessary to ensure that young children stay active.
- Guidelines should address both active and sedentary opportunities. Policies for education and training should be established, and evaluation process is needed to ensure uptake.
- Childcare centres should continue to promote physical activity by providing opportunities for both structured and unstructured play.
- Childcare centres should provide both fixed and portable equipment and should reduce the frequency or number of sedentary opportunities.
- Active behaviours may be reinforced by modelling (e.g., staff leading and participating in physical activities with children) and by rewarding good behaviours with increased activity.