

## **Physical activity should be a focus from childhood**

### **Article reviewed:**

### **Timing of the decline in physical activity in childhood and adolescence: Gateshead Millennium Cohort Study**

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It has been well shown in research and preached in our world community that physical activity is an essential component to well being. Studies show a clear dose response relationship between increased levels of physical activity and associated health benefits. Canadian guidelines for physical activity including those for children and adolescents encourage participation in a variety of physical activities that support their natural development and promote their well-being. The Canadian guidelines for physical activity note that health benefits will be felt by children and adolescents who do at least 60 minutes of moderate to vigorous physical activity (MVPA) on a daily basis. General consensus in previous studies has suggested that as we grow up, physical activity levels decline. In particular, it is common belief amongst those involved in healthcare that in adolescent years this decline was the most drastic and important to target. It was also believed that this decline was more serious in girls than in boys. This article assessed the validity of these perceptions by reviewing the literature on this topic and by performing a longitudinal cohort study to assess physical activity decline over time from age 7 to 15.

On review of the evidence, the authors concluded that there was insufficient proof that both total volume physical activity and MVPA declines with the onset of adolescence nor to prove that this decline is more marked in girls than boys. The main reasons for this were a lack of objective measurements in the previously done research, the amount of follow-up and the lack of present-day applicability of the studies, which were mainly done before the year 2000.

The longitudinal cohort study included 545 individuals from the Gateshead Millennium Study over 8 years of follow-up, from North-East England. The cohort was studied at ages 7, 9, 12 and 15 years of age to assess the progression of their physical activity in terms of habitual total volume of physical activity and MVPA. To do this, they used an Actigraph accelerometer to get objective measures over 5–7 day intervals at each year of collection. The analysis of the cohort was done by looking at a trajectory of physical activity to be able to assess whether there was significant drop in adolescence. As well this trajectory method of analysis allowed the authors to identify subgroups within the cohort who may have had different changes in physical activity over time.

Four trajectories of change in terms of total volume of physical activity and four trajectories as well for MVPA were identified for boys. There was one trajectory of

change in total volume of physical activity and three trajectories of change in MVPA for girls. All of these trajectories showed a decline from age 7 to the age of 15 years old in all the participants. There was no evidence of a steep decline starting in adolescence for both total volume of physical activity and for MVPA.

This study showed that in all forms of objective data that were used as measurements showed declines in physical activity from as early as age 7. These measures are commonly used in similar studies. In recent years, since the beginning of this study, there have been other studies that fit the conclusion of these findings. These other studies either did not include childhood or failed to prove the previously held belief that physical activity begins to decline at adolescence more rapidly and declines more rapidly in girls than boys.

The strengths of this study were its longitudinal design, the size of the cohort, the objective nature of its results and the fact that it represents a contemporary sample of children. The fact that this study was located only in the North-East of England makes it possible that different results may be found in a different cohort living in a different part of the world with different physical activity policies and perspectives.

In conclusion, the present study contradicts the currently held belief that there is a significant decline in physical activity in adolescence as opposed to earlier in a child's life. The main implication of these findings is that current policy is not founded in evidence-based findings. Thus, there is need for future research and change in public health policy with a greater emphasis on child rather than adolescent physical activity, and on both for boys and girls. Specifically healthcare professionals including primary care physicians may need to consider their focus on promoting physical activity in early childhood for both sexes.

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