

THE IMPACT OF FAMILY PATTERNS ON CHILDREN'S PHYSICAL ACTIVITY

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Background: Physical inactivity is a leading risk factor for death from non-communicable diseases. People who are not active enough have a 20–30% higher risk of death than those who are active. Regular physical activity is associated with improved physical fitness, cardiometabolic health, bone health, cognitive outcomes, mental health, and reduced body fat in children and adolescents. People's lives are becoming increasingly sedentary due to motorized transport and increased use of screens for work, study and leisure. Evidence shows that a higher amount of sedentary lifestyle is associated with the following adverse health outcomes: increased obesity in children and adolescents, poorer cardiometabolic health, fitness and behavioural/prosocial behaviour, and reduced sleep time.

Objective: In our study, we present the effect of family pattern on children's physical activity. We raised the following questions: Does increased screen time cause a decrease in physical activity? Does parental BMI influence children's physical activity? Also: Is family activity pattern related to children's physical activity?

Subjects and methods: In 2025, we surveyed the physical status of 121 6–11-year-old schoolchildren in Budapest. We had a questionnaire about their and their family's health status and free time activities. Body composition was examined by In Body 720 body composition analyser.

Results: Based on our results, in the studied population, physical activity was primarily determined by participation in organized sports and the mothers' physical activity level. It showed a smaller correlation with screen time, mainly during weekdays, while we found no significant correlation with parents' BMI values.

Conclusion: Our conclusion is that an active family environment results higher activity in children. Children's physical activity is primarily determined by participation in organized sports and the parents' sports pattern, while everyday screen use shows a moderate negative correlation with the number of active days.

Keywords: BMI; Blood pressure; Fitness score; Central fat.

THE RELATIONSHIP BETWEEN BMI AND BLOOD PRESSURE IN CHILDREN AGED 6–11 YEARS

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Background: Based on the results of several international studies on the relationship between nutritional status, body composition and blood pressure in childhood and adolescence, it can be said that there is a clear relationship between BMI and blood pressure even in childhood: higher BMI values are usually associated with higher blood pressure, and prehypertension and hypertension are more common among overweight or obese children. This is also important because childhood blood pressure readings often predict the risk of cardiovascular problems later in adulthood.

Objective: In our study, we were looking for answers to the following questions: do Fitness Score and fitness status affect blood pressure? How does BMI, body composition, especially body fat, affect blood pressure? Is hydration level related to fitness?

It is assumed that abdominal obesity has a particularly strong connection with elevated blood pressure, it matters where excess fat accumulates in the body.

Subjects and methods: In 2025, we surveyed the physical status of 121 6–11-year-old schoolchildren in Budapest. Body composition was examined by In Body 720 body composition analyser, and blood pressure by Omron M1 Compact monitor.

Results: The Fitness Score is primarily influenced by body composition. Blood pressure is primarily compositional and not fitness-dependent. Blood pressure is a matter of body composition. Blood pressure is related to body size and central fat deposits. Central fat is more important than total body fat percentage. Hydration is a fitness factor.

Conclusion: Overall, in the prevention of childhood hypertension, taking into account body composition and especially abdominal fat accumulation can help us recognizing risks in time and intervene more effectively. It is worth checking BMI and blood pressure regularly in childhood, especially in the case of overweight, but in addition to BMI, it is also advisable to measure the proportion of body fat and abdominal obesity.

Keywords: BMI; Blood pressure; Fitness score; Central fat.