

## Trends in physical activity and overweight among adolescents and their parents in Russian population

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### Background:

Unhealthy lifestyle, including physical inactivity and overweight, typically begins in adolescence. Familial aggregation of the factors aggravates the predictive risk. During the 1990s Russian population has been exposed to major political, economic and social changes.

### Methods:

Seven cross-sectional surveys of representative samples of school children aged 14-18 in 1989-2019 were carried out in Novosibirsk. Total sample was 4677 (45% males). To define overweight in adolescents the sex- and age-specific BMI cut-offs of the IOTF were used. Information about parents physical activity (<150 min/week), height and weight was obtained by mail questionnaire. Parents overweight registered if BMI $\geq$ 25.

### Results:

Levels of low physical activity in adolescents were stably high during all the period in boys (49-55%) and girls (83-73%) with a rising trend in recent years. In 2009 average amounts of weekly screen time were 18 hours in boys and 15 hours in girls, in 2019 - 35 and 33 hours respectively. Their parents had low levels of physical activity: 2,5 hrs/w in men and 1,5 hrs/w in women without any trends. The prevalence of overweight among adolescents during the 30-year period showed U-curve characteristic with significant decreasing (4,0%) at the end of 90s and rising since 2003 particularly in boys (17.6% in 2019,  $P < 0,01$ ). Overweight prevalence among parents was high: from 25% in 1989 to 38% in 2019 ( $P < 0,05$ ) and from 32% in 1989 to 28% in 2019 among fathers and mothers respectively. Familial associations between parents and children were found for overweight but not for levels of physical activity.

### Conclusions:

Levels of physical activity in Siberian adolescents and their parents were low during 30-year period. Trends in the prevalence of overweight in this groups were differed. Familial aggregation of overweight indicates necessity of preventive actions at a family level.

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### Key messages:

- Levels of physical activity in Siberian adolescents and their parents were low during 30-year period.
- Trends in the prevalence of overweight in adolescents and their parents were differed: the shaped curve in children and linear - in parents. However familial associations of overweight were found.