

LONGITUDINAL COHORT STUDY OF GROWTH, DEVELOPMENT, PUBERTY AND REPRODUCTIVE HEALTH IN RUSSIAN BOYS

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Introduction. There are few longitudinal male cohort studies with serial assessments of growth and puberty. **Design/Methods.** We assembled a multi-disciplinary team of U.S. and Russian researchers to design and conduct a longitudinal boys' cohort study of male growth, development, puberty and reproductive health in Chapaevsk, Russia. At annual study visits scheduled at each subject's birth month, the same study physician (O.S.) assesses pubertal staging and one nurse (L.S.) measures anthropometric variables. Pubertal assessments are based on a 1–5 scale for genitalia and pubic hair staging by visual inspection, testicular volume is measured using orchidometers, and penile length is measured with a ruler. Blood and urine samples for hormonal, chemical, genetic and epigenetic analysis were collected at baseline and biennially. **Results.** In 2003–2005, 516 prepubertal boys were recruited at ages 8–9 years (86% of all eligible Chapaevsk boys) to be followed annually for at least 10 years. The participation rate has remained high with over 75% followed for 6 years and 64% at 9 years of follow-up with 4319 visits as of February 2014. A core set of 23 anthropometric indices measured at annual visits (e.g., height, weight, segment lengths and diameters, circumferences, skinfolds) are available, as well as an additional 30 measures conducted biennially. Longitudinal curves for selected anthropometric and pubertal measures will be constructed. 113 semen samples were collected at 18–19 years old and evaluated for semen quality, including sperm concentration and motility. **Conclusions.** To our knowledge, this longitudinal male cohort is the first to have serial assessments of growth and puberty performed by the same physician and nurse followed for over ten years, from prepuberty to young adulthood. This cohort provides an excellent foundation for describing growth and pubertal development trajectories and evaluating associations with environmental exposures.

Key words: *growth, development, puberty, longitudinal curves, Russians, males, anthropometry*

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PHYSICAL STATUS OF CHILDREN BORN IN 1996 (LONGITUDINAL AUXOLOGICAL STUDY OF CHILDREN FROM VILNIUS CITY, 1996–2013)

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Based on the 1985–1992 cross-sectional auxological Lithuanian growth study, the new growth monitoring system and percentile growth charts were implemented at clinical practice in Lithuania since 1995 (Tutkuvienė, 1995). The aim of the present study was to evaluate physical status of children born in 1996 in Vilnius city from birth up to the end of puberty and to investigate their growth tendencies. **Material and methods:** data were derived in 2014 from personal health records of children (373 boys and 342 girls, total number 715) born in 1996 in Vilnius city. Main growth indices (height and weight recorded annually from birth up to the age of 17