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THE AGE AT MENARCHE AND THE SOCIAL STATUS OF THE FAMILY[1]

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Abstract: The authors sketch the biological process of girls' maturation of which the menarche is an adequate indicator. They enumerate the human biological conditions of the onset of puberty: the biological/physiological symptoms (e.g. developmental status of the growing female organism; critical body mass, etc.) and/or the environmental, ecological and economical conditions (e.g. climate, nutrition, social status of the family, urban and rural mode of life, etc.).

They give a brief overview of the changes of age at menarche over centuries, as a part of the phenomenon of a secular trend.

They touch on some questions thought of as factors influencing the age at menarche. (1) *Climate*: we think today that the climate's influence plays a lesser role in this, because it is covered by the more significant effects of socio-economic status. – (2) *Nutrition*: human ecology states that under factors influencing the growth process of children, one of the most important factors, if not the most important one, is nutrition. – (3) *Secular trend* is a world-wide phenomenon of long-term, systematic changes in a wide variety of anthropological traits in successive generations of a population living in the same territory (Eiben 1988). Data from different parts of the world demonstrate the earlier onset of the menarche. The age at menarche today is about 12.6–12.8 years. – (4) *Constitutional correlations*: There are certain relationships between body build and biological maturation, and "critical body mass" also influences the onset of puberty. – (5) *Heredity*: Genotype and environmental variation, the correlation between these two, and the interaction of the two, influence biological maturation. Inheritance of age at menarche is 88.2% > H > 72.2%. – (6) *Race/Ethnic groups*. General migration in the last third of the 20th century all over the world

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was so intensive that this form of question of differences in age at menarche under ethnic groups has decreased in its importance. – (7) *Social-economic status*: The influence of social inequality on the growth and maturation of children was studied scientifically about 180 years ago. Many authors detected effects of social gradients to growth and maturation. It is scientifically proved that better environmental status, better family background (both financial and cultural) help the manifestation of the growth pattern. The authors demonstrate differences in onset of puberty in girls according to social classes: girls of lower-stratum families mature later than those living in the upper strata. The unfavourable family background of poor girls retard their maturation, i.e. their age at menarche appears at a later age of life, – as can be seen based on much data collected in different parts of the world. An important lesson of growth/maturation studies is: body measurements and maturation characteristics, i.e. the age at menarche, these very objective measures react to irreproducible social events and/or changes exactly and with a very quick and sensitive response.

Introduction

One of the most intensively and most frequently studied aspects of human biology is the growth and maturation of children. One reason for this is the scientifically proved and generally accepted statement that *the growth and biological maturation status of children is the best index of the health and nutritional status of a community* (WHO 1978, Tanner 1986). In the last decades of the 20th century, a new name for growth studies came into general use: *auxology* (αύξάνω [= auxáno] an Ancient Greek word, which means increase, add to, in our sense: science of growth). A modern field of interest in growth studies is *epidemiological auxology*, when the growth survey concerns the whole population (i.e. based on a large sample) and its results are generally well-founded.

The age at *menarche* provides a convenient measure for the tempo of growth of a population at a given time (Tanner 1981).

The sanguineous history of the 20th century called attention to several problems concerning youth, e.g. the ratio of youth in the population determines many of its possibilities. Add to this that the most dramatic changes happen over the first two decades of human life, i.e. puberty is a very important period concerning development. In females, the most remarkable event of girlhood is the *onset of the menarche*. The appearance of the first menstruation in the continuous, complex process of the maturation of females represents a sharply defined point in time. According to Fekete (1955) the age at menarche depends on when the central nervous–hypophysis system reaches the required level of function and when the ovaries are adequately ready to respond to impulses