شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

Adolescent menstrual disorders, their physical development, hormonal profile and pelvic ultrasonography

Thesis

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Introduction

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Normal female puberty

Definition:

Puberty is simply the period, which links childhood and adulthood. [1] Puberty has been better defined as "the state of being functionally capable of reproduction" [2] or in other words, the period when the endocrine and gametogenic functions of the gonads first develop to the point where reproduction is possible.

However, the term "puberty" is generally used in a more comprehensive sense to refer to the whole period of time and the sequence of events which mark the evolution of sexually immature child incapable of reproduction into a sexually mature adult capable of reproduction. [3] During this stage of development, the secondary sexual characteristics appear and mature, the adolescent growth spurt occurs, the genital organs mature, gametogenesis, secretion of gonadal hormones and menstruation begin, reproduction capacity is achieved, sexual diamorphism is accentuated and profound emotional, psychological and behavioral changes are observed. [4]

Etiology of pubertal changes:

Changes occurring during puberty result from the activation of the hypothalamo-pituitary gonadotropin unit, stimulation of the sex organs and secretion of sex steroids, which entrain as a consequence. [5]

Under the influence of sex hormones, the adolescent is subjected to profound biological, morphological and psychological changes which all lead to full maturity and eventually fertility. [1] These physiological events controlled by the interaction of several complex neurohormonal secretory mechanisms appear to be part of a strict genetically determined program most likely initiated during fetal life. [1]

Factors determining the age of puberty:

Several hormonal and humoral signals modulate the physiological changes. In addition, heredity, nutritional, physical, psychological and environmental factors may all influence the age at which puberty will occur. But the "primum mover" or triggering mechanism, which initiates puberty, is still hypothetical. [1]

The major determinant of the timing of the onset of puberty is no doubt genetic, but a number of other factors appears to influence both the age of onset and the progression of pubertal development. Among these influences are nutritional state, general health, geographic location, exposure to light and psychological state. [6] Other influences also affect the age of puberty. Moderate obesity (up to 30% above normal weight for age) is associated with earlier menarche, although delayed menarche is common in severe obesity. [7] Delayed puberty is a feature of chronic diseases and malnutrition. Strenuous physical activity in girls can delay or arrest puberty, especially when associated with thinness. The importance of genetic factors is illustrated in the similar age of menarche members of an ethnic population and in mother-daughter pairs. Secondary sexual development occurs earlier in black females compared to white females in the United States. There is no apparent effect of social or economic factors on this relationship. [7] Thus, when socioeconomic and environmental factors lead to a good nutrition and general health, the age of onset of puberty in normal children is determined largely by genetic factors. [5] The average age of onset of puberty show a secular trend towards earlier occurrence that cuts across geographic and ethnic lines, for example, the average age of menarche in industrialized European countries has decreased between two to three months over the

past one hundred and fifty years. [9, 10] The progressive decline in age of puberty had been demonstrated to be a result of improvement of the socioeconomic condition, nutrition and general health. [9, 10] However, the long secular tendency for earlier menarche in Western Europe and United States has slowed or decreased over the last twenty years and the social class difference in menarchal age has narrowed or disappeared. [9, 10] According to a recent survey by the U.S. National Center for Health Statistics, the age of menarche in U.S.A is 12.8 years. [7]

Physical changes of puberty:

Secondary sexual characteristics:

In general, the physical changes of puberty involve all the target organs of the sex steroids. However, the most obvious change characteristics of the female puberty include development of the breasts, growth of pubic and axillary hairs, adolescent growth spurt and menarche. [2, 3, 11] The average age range at which the age changes occur is shown in the following table (1).

Table (1): Age range of the pubertal changes [2]

Physical features	*Age*
Breast development	9-13
Pubic hair growth	9-13
Axillary hair growth	10-14
Growth in height	10-14
Menarche	11-15

On the average, the pubertal development in girls typically requires a period of 4 or 5 years, (range 1.5-6 years). The order of appearance of the physical changes is not strict. Approximately, 50% of girls begin with breast development and growth in height, followed by pubic hair and axillary hair and then onset of menstruation. However, in the remaining 50%, these events occur in a different pattern, for example, pubic hair growth before breast growth, menstruation before axillary hair growth. The changes vary in the age of onset, time of full development, and order of their appearance. It is a mistake to expect two girls to be the same. What is reasonably constant, is that menstruation usually commences after the maximum growth rate. Also, there is a relationship between skeletal maturity and the onset of menstruation. At menarche, the majority of girls have a bone age of 13-14 years. It is unusual for