**International Journal of**
**Recent Innovations in Medicine and Clinical Research**
Open Access, Peer Reviewed, Abstracted and Indexed Journal

ISSN: 2582-1075
https://ijrimcr.com/
Volume-2, Issue-2, 2020: 1-5

# The Human Sexual Characteristics

**Janos Vincze, Gabriella Vincze-Tiszay**

Health Human International Environment Foundation, Budapest, Hungary
Corresponding author Email: ndp@t-online.hu

**Received:** February 25, 2020 **Accepted:** March 20, 2020 **Published:** April 4, 2020

**Abstract:** The sex glands are not only the site where sex cells (spermatozoa and ova) are formed, but also have a function of internal secretion, discharging sex hormones into the blood. These hormones fall into two groups: the male sex hormones or androgens, and female sex hormones or oestrogens (oestrus, the period of ovarian hormonal activity or the period of heat). Both types are produced in the male and female gonads, but in different amounts, which can be determined from the urine, in which they are eliminated from the body. The physiological role of the sex hormones consists in ensuring the sexual activity of the organism. They are necessary for sexual maturation, i.e. for the development of the organism and its genital apparatus that makes the sexual act and reproduction possible. They are responsible for the development of secondary sex characters**,** i.e. of peculiarities of the sexually-mature body that are not directly associated with sexual activity but are specific features distinguishing the male and female organisms. From psychological point of view is important the tertiary sexual characteristic. At the human species appears other sexual characteristics: fourth, fifth and sixth. We note that this part is functioning also under normal circumstances, only the brain activity obscures (masks) the everyday activity of the hypothetical secondary brain.
**Keywords:** Sexual characteristics, fourth, fifth and sixth sexual characteristics, biophysical modeling, hypothetical secondary brain.

## Introduction

The process of sexual development in man may be divided into five stages: childhood, adolescence, youth, sexual maturity, and the stage of diminution of sexual activity. [1]

The stage of childhood lasts until the age of ten in boys and eight in girls, on the average. At this time the testicular seminiferous tubules of boys are narrow and not very convoluted, and have only a single layer of poorly-differentiated germinal epithelial cells; the interstitial tissue is little developed. In girls the ovarian primordial i.e. primary, follicles which have already been formed in the embryonal stage, continue to grow, but very slowly.

The adolescent stage occurs in boys between ten and fourteen, and in girls between nine and twelve. The seminiferous tubules develop rapidly during this period and become extremely convoluted and twice as wide. The number of epithelial layers increases; spermatocytes, i.e. cells that are the immediate precursors of spermatozoa, appear along with spermatogonia.

In the ovaries the follicles grow rapidly and those with membranes increase in number; there are also more graafian vesicles which form due to accumulation in the follicles of a viscid follicular fluid, which is surrounded by the epithelium that forms the granular layer of the follicle (stratum granulosum). The amount of androgens and oestrogens in the urine increases at this stage; the urine of boys contains more androgens, and that of girls more oestrogens.

The stage of youth (between fourteen and eighteen in boys and thirteen and sixteen in girls) is marked by rapid development of secondary sex characters. At this stage boys first become capable of the sexual act, then of ejaculation (expulsion of the semen), and lastly of fertilization. In girls there are variations in the oestrogen content of the blood and urine at first at indefinite intervals, but later at periods corresponding approximately to those of the sex cycle of adult women. These variations provide evidence of the developing periodic activity of the endocrine glands, peculiar to women and controlling the female sex cycle.

In advanced age, usually after forty-five or fifty in women and after sixty in men (in some cases much later), the climacteric, i.e. loss of sexual activity, is established gradually. The sex cycles in women become more irregular, non-ovulatory cycles occurring more frequently, and then cease completely, with cessation of menstruation (age amenorrhoea). In men this period is marked first by loss of motility of the spermatozoa and resulting loss of fertility, then by loss of ability to ejaculate, and lastly by loss of ability to perform the sexual act. The seminiferous tubules, the testicular interstitial tissue, and the prostate become atrophied. [2]

The author's unique hypothesis is that of the sexual apparatus in the human organism have a control system which he calls the "hypothetical secondary brain". [3] In the everyday regulation of the human body the functioning of these "hypothetical secondary brains" is suppressed by the regulation of the whole organism, but with tremendous probability, space-microscopy will prove the validity of this hypothesis in the near future.

**The first sexual characteristics**

**The male's reproductive system**

The male reproduction system is made of the masculine gonads (testicles), the intra- and extra testicular sperm ducts, the annex glands and the copulative organ (penis). The testicle is a double function organ: reproductive, connected to the seminal epithelium and endocrine, performed by Leydig's interstitial cells (which elaborate the androgenic hormones). [4]

The semen ducts represent the morphofunctional units for the production of spermatozoids. The totality of these ducts, situated in the testicle lobes, form the testicular parenchyma. Each lobe contains 1–3 semen tubes. The total number of the semen ducts in a testicle varies between 700–9000. Their length is enormous, 30–50 cm in the small lobules and 120–150 cm in the big ones. The diameter of the ducts ranges between 150–300 μm.

The copulating organ (penis) is formed of erectile tissue disposed in three cylindrical formations: the corpora cavernosa, in number of two and the corpus spongiosum. The erectile tissue which enters the structure of the corpora cavernosa and the spongiosum one is represented through a trabecular – alveolar system with value of venous plexus. The central areolas are big while the peripheral gaps are small and they open in the venous plexus.

**The woman's reproductive system**

The woman's reproductive system is formed of the female gonads (ovaries), genital ducts and the external genital organs. [5] On one side, the ovaries – the main structure of the woman's reproductive system – represents the development and maturity system of the female gametes and on the other side they have important function of endocrine gland: the ovarian hormones ensure both the development of the genital tract and the apparition of the secondary female sexual features, as well as the maintenance of pregnancy.

The ovarian follicles are localized only in the cortical. From the enormous number of follicles present at birth (200.000–400.000 in the two ovaries) during the active sexual life of the woman (from puberty to menopause) only a number of 400–500 follicles reach maturity stage with ovulation and formation of ovules.

The maturation of the ovarian follicle and the formation after the ovulation of the yellow body are rhythmical processes, representing totally the so called ovarian cycle. [6, 7] In relation with the 28 days menstrual cycle, the follicle development and maturation of the follicle is achieved in days 1–12 and the ovulation takes place between days 12–16, the second part of the menstrual cycle corresponds to the constitution of the yellow corpus which in a non-pregnant woman degenerates in the days 26–28 of the uterine cycle and it is finally replaced by scar tissue.

We consider the modeling of this rhythmical processes at the women. [6] Hence we have a discrete function with two various states. We can describe the periodic function F(t), if we consider the time of a menstrual cycle be equal with T = 28 days.

$$F(t) = \begin{cases} Z_1 & n.28 < t \leq n.28 + 5 \\ Z_2 & n.28 + 5 < t \leq (n+1).28 \end{cases}$$

The maintaining of the species is obtained through reproduction, for which in the case on humans there are sexual differences characteristic in men and women in what regards the morphology of the sexual organs, differences called and considered primary characteristics. [7]

The female organs are the uterus, the ovaries with the annexes, the vagina and the male sexual organs are the testicles, the prostate and the penis. The formation of the main characteristics is obtained in the moment of unification of the male and female haploid cell if: the diploid is 22 pairs + XX the result is a female individual; if: 22 pairs + XY a male individual is formed during the ontogenesis. An incontestable fact is that a person cannot choose their sex, but they inherit it from the parents.

**The secondary sexual characteristics**

Secondary sex characteristics are features that appear during puberty in humans. These characteristics are particularly evident in the sexually dimorphic phenotypic traits that distinguish the sexes of a species. [8]

The sexual organs produce specific sexual hormones with essential difference between the two sexes. From the point of view of the chemical structure, these hormones have steroid characteristic, their chemical base is cholesterol. From the physiological point of view it can be grouped in three categories: female hormones–estrogen, gestogen (lutein) and androgen– male sexual hormone. The sexual hormones are not absolutely specific in what regards the two sexes, the three types of hormones can be found in both sexes. In what regards the sex differences, quality and quantity is decisive. In the body of women the estrogen and gestogen are found in absolute majority and in the male organism androgens are predominant. The research confirmed the importance of the central nervous system in the production of the sexual hormones. [9]

The mammary glands, although present in both sexes are morphofunctional dimensions and their significations are completely different. In the adult woman the mammary glands have a hormone dependent complex structure and are characterized by a strong, morphofunctional dynamism. The mammary glands are adapted for the milk secretion. The mammary glands are made of mammary lobes. Each mammary lobe represents in reality a strongly branched alveolar structure whose organization does not become complete but during gestation. They develop during puberty and they become functional only in the last period of the pregnancy and especially lactation, the regress and atrophy in women at menopause.

The sexual hormones are produced by the ovary, testicles, placenta and especially by the adrenal gland. Their action on certain organs or tissues depends on the specific sensitivity of the reception proteins. The amount of sexual hormones and their action on the organs and tissues is related to their

specific sensitivity which affirms in visible morphological manifestation, represents totally the secondary sexual characters.

In females, breasts are a manifestation of higher levels of estrogen; estrogen also widens the pelvis and increases the amount of body fat in hips, thighs, buttocks, and breasts. Other secondary sexual characteristics in females can also be used to assess development. There are changes in the labia, nipple, and hymen. [10]

Female secondary sex characteristics include: enlargement of breasts and erection of nipples; growth of body hair, most prominently underarm and pubic hair; widening of hips, lower waist to hip ratio than adult males; elbows that hyperextend 5–8° more than male adults; upper arms approximately 2 cm longer, on average, for a given height; labia minora, the inner lips of the vulva, may grow more prominent and undergo changes in color with the increased stimulation related to higher levels of estrogen.

In males, the increased secretion of testosterone from the testes during puberty causes the male secondary sexual characteristics to be manifested. In males, testosterone directly increases size and mass of muscles, vocal cords, and bones, deepening the voice, and changing the shape of the face and skeleton.

Male secondary sex characteristics include: growth of body hair, including underarm, abdominal, chest hair, and pubic hair; growth of facial hair; enlargement of larynx (Adam's apple) and deepening of voice; increased stature; adult males are taller than adult females, on average; heavier skull and bone structure; increased muscle mass and strength; broadening of shoulders and chest; shoulders wider than hips; increased secretions of oil and sweat glands.

On the basis of the sexual secondary morphological characters, the two sexes differentiate obviously.

**The tertiary sexual characteristic**

In conclusion, on the basis of the secondary features, the sex of the person can be detected by sight. This fact contributes to the third sexual character. The apparition of the person of opposite sex, produces in the other person the triggering of the sexual desire, which is the tertiary sexual character. The tertiary character means that the male person wishes a relationship with a female person, but also that the female person wishes a heterosexual relation with the male person, a fact which is an inborn reflex and enters the category of the instincts.

**The fourth sexual characteristic**

The primary, secondary and tertiary features are specific to the species. There is basic morphology and physiology and it exists regardless of our personalities. [11] The fulfilment of the instinctive requirements does not mean only a necessity, but it also offers satisfaction and joy. This phenomenon also refers to the sexual act, which does not always mean the purpose of birth of a descendant, but also the sexual contact in itself can represent a satisfaction, a joy and a psychological pleasure. Along time, the purpose of obtaining the birth of a descendant from an activity which has pleasure as a purpose was modified. During the formation of the human societies, even in the first phases, the primitive man used primitive jewellery, the decoration and the colouring of the skin in women and men was also used. The differentiation between men and women within the group represents a sexual character and this is the fourth sexual character.

**The fifth sexual characteristic**

Along the ages, instead of the horde, family appeared, with the role of the men and women within the family, including the family activity specific tasks, which represents the fifth sexual characteristic. In our days the issues related to women’s tasks also lead to social conflicts.

**The sixth sexual characteristic**

Along the ages of the biological development of man, the psychological development followed which in our days continues to develop. In the last phase the love state appeared. In the love state, man and women are connected by the instinctive sexual relation, but with an exclusive connection between them. Love must not be confused with a certain occasional sexual contact.

This connection can be considered as the sixth sexual character, so the particular (personal) relation between a man and a woman, the heterosexual relation during the entire life, the increase of the tasks in this connection along time and the exclusion of the temporary sexual deviations follows the tradition of the ancestors and ensured a balanced life full of satisfactions and joy.

**Conclusion**

The primary, secondary and tertiary features are specific to the species and fourth, fifth and sixth sexual characters specific only human species. The fecundation in itself is obtained through the sexual act which in nature has a single form: heterosexuality. From the physiological process of fecundation it results clearly that the sexual act is possible exclusively between two people of different sex with a single purpose: maintaining the species. In the natural physiological process, the participants are heterosexual. For this reason, the homosexual activity of different nature from the medical science–regardless of certain thoughts or convictions–must be seen as aberration. [12] For the minority with an aberrant conviction, after the sexual activity, the purpose is not achieved; a descendant does not result, so the species is not maintained. During the phylogenesis the male and female sexes were differentiated so that the sexual contact is finalized with the apparition of a descendant.

**References**

1. Vincze J. Medical Biophysics. NDP P, Budapest, 2018.
2. Draper E, Collum I. Psychology of Aging. Clin Obstet Gynecol. 1977;20(1):123-136.
3. Vincze J, Vincze-Tiszay G. The “hypothetical secondary brain”. Med Res Arch. 2019;7(7):1-3.
4. Taylor ES. Obstetrics and fetal medicine. Williams and Wilkins Co., Baltimore, 1978.
5. Sulak PJ. Sexually transmitted diseases. Semin Reprod Med. 2003;21:299–307.
6. Vincze J. Interdisciplinarity, NDP P, Budapest, 2007.
7. Morice P, Leary A, Creutzberg C, Abu-Rustum N, Darai E. Endometrial Cancer. Lancet, 2016 Mar 12;387(10023):1094-1108.
8. Vincze J. Biophysics of the endocrine systems. Sec. ed. NDP P, Budapest, 2018.
9. Freedman OS. Clinical Immunology. Harper and Row, N.Y, 1971.
10. Vincze J. Biophysics of the Reproduction Apparatus. Sec, ed. NDP P, Budapest, 2018.
11. Vincze J. The Biophysical Modeling of the Human Apparatuses. NDP P, Budapest, 2020.
12. Harvell FE. Jr. Regression modeling strategies: with applications to linear models, logistic and ordinal regression, and survival analysis. Springer, Berlin, 2015.

**Citation:** Vincze J, Vincze-Tiszay G. The Human Sexual Characteristics. Int J Rec Innov Med Clin Res. 2020;2(2):1-5.