The Ministry of Health of Ukraine
High Medical Educational Establishment of Ukraine
“Ukrainian Medical Stomatological Academy”
Department of Urology, Medical Sexology
with Anesthesiology and Intensive Care

Basic manual of sexology and sexual pathology

Recommended by Public Institution “Central Methodological Cabinet of High Medical Education of the Ministry of Health of Ukraine” as a manual for students of high medical educational institutions of III-IV levels of accreditation

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The manual reviews the main theoretical and practical aspects of medical sexology and sexopathology, taking into account the current state of the problems. This manual is adapted to typical learning program, both conventional and up-to-date methods of diagnostics and therapy of sexual disorders are detailed. The separate sections of the manual highlight issues of male infertility and family planning methods according to last World Health Organization recommendations.

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PREFACE

Basic manual is designed for students of high medical educational institutions under the new curriculum of the basics of sexology and sexual pathology (Kyiv, 2009). Authors report that the existing scientific and academic literature on sexology is not always and not fully meet the curriculum of the discipline that leads to certain difficulties in its study. The authors tried to take into account the specific peculiarities and problems arising in the field of study of sexology and sexual pathology among students.

Current requirements for the training of specialists of different disciplines - urologists, psychiatrists, endocrinologists, gynecologists and others require the possession of the basics of medical sexology: sexological examination of patients, multidisciplinary scientific organization of effective interaction in the diagnostics and treatment of sexological patients, deep theoretical knowledge of sexology in general. The present study guide allows future doctors to navigate between the main sections of sexology and sexual pathology.

In this paper, the general questions of human sexuality, sexual harmony of couple and the features of sexological examination are closely connected to etiology, pathogenesis and treatment of sexual dysfunction in men and women; sexual disharmony of couples and their correction and prevention are thoroughly reviewed. The principles of psychotherapy, sexological care and management of clinical patients are exposed to deontological analysis according to practice of sexologist. The guide reveals how traditional approaches relate to the theoretical and practical aspects of medical sexology. Besides that, modern methods of diagnosis and treatment, including male infertility, are widely reported. Methods of family planning are described according to last WHO recommendations (2013). Presentation of educational material include specific aspects of sexological problems among the urologists, sexologists, psychiatrists, gynecologists and others.

Generally, the aim of this work is the formation of future doctors understanding of the opportunities, forms and methods of sexology and sexual pathology, understanding its place and role in diagnostics, treatment and rehabilitation of sexological patients.

The authors are grateful for the critics of the presented work and must take them into account in the future. We thank the reviewers for their support and valuable advice during the preparation of this work and colleagues for assistance when creating manual.

LESSON 1

DEVELOPMENT OF HUMAN SEXUALITY.

PHYSIOLOGICAL CHARACTERISTICS OF THE SEXUAL RESPONSE IN MEN AND WOMEN

Duration of lesson: 2 academic hours.

The purpose of the activity: to familiarize students with the formation of human sexuality, with the physiological characteristics of sexual response in men and women.

Place of employment: training room, a computer room.

Equipment classes: tables, figures, videos.

Medical sexology – interdisciplinary branch of sciences that studies the causes, conditions of development and clinical manifestations of disorders of sexual health for the purpose of diagnosis, rational treatment, psychological management, effective prevention, as well as the development of mental health issues of sexuality.

Medical sexology covers a number of problems associated with normal expression of human sexuality, as well as general and specific questions of pathology.

The increase in attention of the doctors of different specialties to medical sexology is because of high importance of its problems both in terms of biomedical side of public health and in terms of social and psychological well-being of the couples.

Relatively high level of general education of population, the powerful potential of modern media have caused an increase in general and medical culture of the society, and the need for wider circulation in medical institutions, for the different questions about intimate relationships.

Years of clinical experience show that certain circumstances, on the one hand, allowed diagnosing a particular pathology of the sexual sphere in men and women in the early stages, and on the other – to identify a significant number of cases of sexual disharmony of couples which are not directly associated with sexual dysfunction of one or both partners.

Disorders of sexual function in men and women is a kind of disease that is relatively common, and the importance of which is obvious to patients.

Development and introduction of effective methods of prevention and treatment of sexual disorders in men and women is one of the most urgent tasks of modern clinical medicine.

Giving a definition of sexual health, it is believed that it consists of such constituent elements:

1) the ability to control and get enjoyment of sexual and reproductive actions in accordance with the norms of social and personal ethics;

2) freedom from fear, shame and guilt, misconceptions and other psychological factors which depress the sexual response and disturb sexual relations;

3) the absence of organic disorders, diseases that hinder the implementation of sexual and reproductive functions.

At a special meeting of WHO experts have been proposed and adopted such definition of sexual health: “Sexual health is a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled” (WHO, 2006a).

This definition describes not only regulatory mechanisms, but also the possible causal factors responsible for the harmony and disharmony of sexual life.

Until now, the development of medical sexology was carried out mainly by separate study of the etiology, pathogenesis, clinical manifestations and course of sexual disorders in men and women. At the same time, sexual function is a function of the human pair (couple), which realization is directly dependent not only on the general condition of the organism and, in particular, the functioning of the nervous and endocrine systems of men and women, but also on their mutual adaptation and emotional background.

Multiple studies that gained widespread both theoretical and practical aspects of medical sexology are dedicated to problem of sexual disorders in men and women. Methods of diagnostics, treatment, prevention of the sexual disorders are constantly optimizing.

But still different issues of sexual health services exist. There are various opinions on the diagnostic nomenclature and classification of clinical disorders of sexual function in men and women, as well as sexual disharmony of couples.

Most of the works in the field of medical sexology are related to, as a rule, the separate disease of males or females, without taking into account the nature of the conjugation of sexual function. At the same time its usefulness, which is due to the state of health of each partner and the nature of their relationship is a very important aspect of the intimate life of the couple.

Based on this, a tendency to solve problems in the diagnostics and treatment of sexual disorders was outlined basing on the specifics of this function.

Undeniable is a need for a deep comprehensive study of the conditions of sexual disharmony occurrence, the reasons for its development and forms of expression, as well as ways and means of correction. The study of these issues is necessary to select the most reasonable approach to the construction of the differential treatment of men and women, as well as an effective correction and ways prevention of sexual disharmony. The importance of these issues is also due to their great social significance because sexual pathology, and in particular, sexual disharmony in couples, which has a significant negative effect on the mentality of the partners and leads to conflicts can become one of the most serious obstacles to the creation of a strong family relations.

DEVELOPMENT OF HUMAN SEXUALITY

Formation of sexuality is a complex process that begins in the embryonic period of ontogenesis and ends with puberty. From the first days of life the social and psychological factors affect the psychosexual development, the main ones are sexual self-consciousness, sex role behavior and sexual orientation.

State scientific and methodological center on sexual pathology developed the concept of psychosexual dysontogenesis which can properly explain the causes and conditions of its violations and to create a corresponding therapeutic and preventive measures.

Human sexual development is carried out in two directions - psychosexual and somatosexual. Psychosexual development of men and women has some features due to sex differences and polarization of male and female roles.

Modern sexology identify several stages of sexuality formation.

The *prenatal period*, in which the differentiation of gonads, genitalia and brain structures occurs.

Parapubert period (1-7 years), when the child is aware of sexual identity, begins to distinguish the surrounding sexes and irreversibility of sex. At this age, the curiosity towards the sexual characteristics and to genitals appears(sexual self-conscious forms).

Prepubertal period(7-13 years) is characterized by the generation of sex role study behavior installations through the game, stereotyping the state role behavior.

For *adolescence* (12-18 years) platonic dreams and fantasies, courtship, platonic companionship (formation of platonic libido), and then the erotic fantasies, erotic caresses and games (formation of erotic libido)are typical.

During the *transitional period of sexuality* (16-26 years), formation of sexual libido is typical (there are sexual fantasies, masturbation, sexual initiation, sexual excesses, etc.).

Period of *mature sexuality* (26-55 years) is characterized by a regular sex life, entering a period of semi-physiological rhythm.

In the *involutional period* (56-70 years) decreased sexual activity is seen, libido regresses to the level of erotic and platonic.

There are certain critical periods of sexual development: 6-32 weeks of intrauterine life; 2-4 years, 7-8 years, 12-15 years, 16-24 years, 51-60 years.

If the first two phases of sexual development deviations can occur under the influence of endogenous pathogenic factors (e.g., the use of hormones by mother), at

stages III-IV exogenous factors are prevalent, in particular, sociogenic (wrong education, violation of family relations) and psychogenic ones, too.

Formation of sexual identity is determined in great way by sexual differentiation of the brain in the prenatal period, and further development of the individual and micro-social environment.

For the full process of differentiation of the brain males require a certain concentration of serum androgen in fetal period and the duration of its effect, the lack of estrogens, the absence of exogenous harmful influences and, in particular, the effects of various pharmacological agents in this period.

Microsocial environment of the child in infancy is limited usually by family members, among which the leading role is played by the mother. Contact with the mother is the most important for a child between the ages of 6 months to 3 years. During the formation of the child's attachment to his mother adequate relationships with others is developed.

Stereotyping of sex-role behavior of children in a great manner is determined by the correct sex-role parental behavior, communication with peers and participation in a variety of games. This contributes to a masculine or feminine character traits and selection of adequate sex role behavior. It is necessary to indicate that the child's behavior, especially sex-role, is strongly related with the formation of his/her character and personality.

Formation of psychosexual orientation in adolescents causes the selection of an object of attraction and implemented in puberty on a background of intensive functioning of the endocrine system and the active development of personality traits.

The first phase of the three stages of psychosexual formation, the development of psychological installation, includes the accumulation of information related to the understanding of the existence of sex, gender roles and features surrounding sexual behavior in the process of interpersonal communication.

The second phase (training and consolidation) of psychosexual development is characterized by the acquisition of skills in game situations, in respect of sex determination and sex role behavior.

The third stage is the realization of sexual desire; the main criterion of completion of this stages is the upgrade of skills in practice.

One of the main laws of formation of sexuality is a change in the relationship of the individual significance of biological and social factors in the process of psychosexual development. Another law is that each stage of development include some elements of the next phase of development.

Violation of early stages of psychosexual development leads to its major deformations that affect the formation of personality. At the same time, the influence of pathogenic factors in the final stage of sexuality can lead only to minor, light violations.

Individual psychosexual development is strongly influenced by social norms of behavior, family, school, children and youth groups, friends with whom children spend their free time, as well as the media (literature, television, videos, internet).

Normal somatosexual development has a certain sequence of manifestation of secondary sexual characteristics in boys and girls, which gradually reach the level of development of a mature man and a woman.

PHYSIOLOGICAL CHARACTERISTICS OF THE SEXUAL RESPONSE IN MEN AND WOMEN

In the structure of sexual behavior important role is played both by biological, psychological and emotional components. Not only internal factors, but also the individual skills are of undoubted importance.

It is known that environmental factors playa certain influence on the process of puberty and subsequent sexual behavior. First of all, socio-economic factors are of great importance. In particular, it is noted in the last decade, when the so called phenomenon of “acceleration” is often observed.

It should be noted extrareceptive stimuli have a certain effect on the sexual behavior of men and women, among them are: tactile sensation due to stimulation of the erogenous zones, certain visual, auditory and olfactory stimuli, as well as a variety of social and psychological factors, which also have influence. It should be noted that the sensory factors may be non-specific and additional components of the mechanism that

determines the sexual behavior of the individual. Complex chain of interrelated physiological processes that underlie sexual function and, in particular, ensure the implementation of intercourse, have the character of a cycle, which consists of a specific sequence of physiological stages.

There are four phases of the sexual cycle: growing excitement, plateau, orgasm and fall of nervous excitement.

Sexual cycle is accompanied by general reactions of the body: facial flushing, myotonia, tachycardia up to 110-180 beats per minute, elevation of systolic (20-80 mmHg) and diastolic blood pressure (20-40 mmHg), tachypnea (up to 60 breaths per minute), an increase in minute breathing volume up to 50 litres.

Sexual response in females. The first phase of the sexual act - a phase of increasing excitation –corresponds to psychological and physical stimulating effect, which lead to increased sexual tension and a willingness to have sex. First of all, the swelling of the labia minora and vaginal vascular congestion (in parous women) is observed. This leads to thinning of the labia majora and distancing them from the entrance to the vagina. In response to sexual stimuli Bartholini glands produce a slimy substance. The clitoris increases in size due to vascular congestion. In the vagina mucoid transudation associated with the expansion of venous plexus takes place. The inner two thirds of the vaginal canal elongate and stretch. Uterine body enlarges and pulls up and back. Mammary glands increase, the nipples tighten. These symptoms occur in 10-30 seconds after the onset of sexual stimulation and suggest the occurrence of sexual arousal.

During the plateau phase facial flushing strengthens, it spreads to other parts of the body, is accompanied by swelling of the labia minora, which become red-violet in color. The vascular congestion of the vagina increases. The body of the clitoris is pulled under the front edge of the symphysis, and then decreases to normal size. In the outer third of the vagina orgasmic cuff is forming. There is an increasing of erection of breast nipples with increasing of their venous pattern.

In the orgasmic phase there are three stages, taking into account the subjective feelings of women: the first stage begins from the feeling of fading, which is due to the

concentration of pleasant sensations that come from the clitoris and genital area. In the second stage, the irradiation of pleasurable sensations spreads throughout the body. Third stage is characterized by a sense of contraction, muscle spasms in the entrance of the vagina and throbbing in the area of the symphysis. Enhanced muscle tension is observed throughout the body. From 5 to 8 strong orgasmic contractions of internal genitals with an interval of 0.8 seconds take place. Flushing of the skin reaches its maximum intensity.

During the final phase reverse development of described physiological changes is carried out to the original state. A feeling of satisfaction and relaxation occurs.

Sexual response in males. In the phase of increasing excitation perfusion of the corpora cavernosa increases, dilation of the glans penis and corpora cavernosa is seen. An erection of the penis develops. A small amount of secretion belongs to paraurethral and bulbourethral glands. The scrotum reduces, shrinks, the testicles are pulled up, the tone of the muscles of the perineal area and sphincter of the bladder grows up. The facial flushing, erection of the breast nipples are observed.

In the plateau phase erection increases. Testicles swell and tighten up, increases the overall muscle tone.

During orgasm the spasm of the sphincter of the bladder happens. There comes a rhythmic contraction of m.bulbocavenosus, m. ischiocavernosus and deep transverse muscles at intervals of about 0.8 seconds. Number of contractions depends on the degree of sexual arousal. Orgasm is accompanied by ejaculation by contraction of the ejaculatory tract, epididymis and testis itself, vas deferens, seminal vesicles and prostate. The volume of the bulb of the urethra increases up to 2-3 times. In the start of ejaculation internal sphincter of the bladder closes, preventing the penetration of sperm into the bladder. Relaxation of the external sphincter of the bladder promotes entry of sperm into the stretching bulb and then to urethra. As a result of contraction of the muscles of the perineum and sphincter of urethra ejaculate is expelled from the area of the prostate urethra to the penile urethra, and 2-3 contractions eject the semen out.

In the final phase flushing of the skin disappears, heart rate, breathing, blood pressure normalizes, erection of the penis disappears.

G.S.Vasil’chenko proposed such division of stages of copulative cycle, that was based on the natural sequence to include all functional elements that provide physiological response during the sexual cycle.

He identified four components of copulative cycle:

1. Neurohumoral component is associated with the influence of deep brain structures and endocrine glands. It provides libido and accordingly all the excitability of the nervous system that regulate sexual activity;
2. Mental component is associated with the activity of the cerebral cortex, determines the direction of sexual desire, facilitates an erection until introitus and provides specific manifestations of human sexual activity, in particular, compliance with the specific conditions of behavioral and ethical requirements;
3. Erection component represents the final executive that provides the mechanical side of sexual intercourse; anatomical and physiological substrate are the spinal centers of erection and corresponding extraspinal areas of the nervous system, as well as the penis;
4. Ejaculatory component is based on the integration of structural elements of the prostate with its own nervous apparatus to paracentral areas of the cerebral cortex. This component ensures the execution of the main task of biological sexual activity - production of the male impregnates the beginning.

Unlike of male and female sexuality. Human sexual function has a wide range of individual characteristics. It is prone to the influence of both biological and social and psychological factors. In this regard, unlike of sexuality in men and women should be considered based on their anatomical and physiological and psychological characteristics, as well as the impact on sexual function of ambient conditions.

In the consideration of female sexuality we have to take into account the changing social conditions - smoothing of differences in education, attitudes, interests, needs of modern men and women. It is necessary to mark the equal rights of women, their independence in economic terms, increased demands to their partners, the induction of a positive attitude toward sexuality, reliable modern means of preventing pregnancy,

absence of rigid social restrictions, failure of “double standards”. All this factors change the psychosexuality of women towards the reduce of characterized features of their sexual behavior, which are determined by the influence of the moral values of society and the rules of public morality.

In females, there is a close relationship of sexual desire with higher values, with the spiritual life, with personality. This may explain the instability of her sexual needs and psychosexual satisfaction. The presence of the love to her partner is a prerequisite for the development of sexuality in women. In males, the lack of love, too, can have a negative impact on sexual satisfaction, but to a lesser extent than in females.

For women, the character of the man, his behavior, her relations with him, the stability of the relationship, emotion, tenderness are of great importance. Women less than men tend to create extramarital affairs, although this difference tends to smooth out. Lack of harmony feelings and relationship causes frustration in women greater than a failed sexual intercourse.

For men, a woman’s appearance, her attractiveness, charm, figure are stronger incentives than similar features for women.

Sexual fantasies in women as during foreplay such as during coitus aree poorer than in men. Women reveal less interest in pornography, the latter has significantly less stimulating effect on them than men. Masturbation in women is much rarer. Male, sexual consciousness is formed more straightforward than female one. During the formation of the conceptual stage of sexuality, there are differences in the nature of children’s games for boys and girls. Romantic stage of sexuality in women is more pronounced and prolonged. Platonic and erotic libido are more expressed in them.

Erogenous zones in women are more generalized in comparison to men. Women may experience a pleasant sensation of gentle touches to many parts of the body, while the male erogenous zones are concentrated mainly in the area of the penis. Women are more individual in their sexual reactions and manifestations. The difference in the frequency of orgasm is an important difference between the sexual life of men and women. Men, unlike women, don’t get psychosexual pleasure without orgasm.

Sexual development of boys differs by age and rate from development of girls. It is occurs 1-2 years later, but has a more rapid course. Boys aged 11-15 years undergo a period of youthful hypersexuality, which is characterized by increased sexual excitability and an increase in sex interest and erotic fantasies. The girls first express the need for psychological intimacy with men and only then erotic feelings. However, in recent decades, the differences in sexual behavior of boys and girls decreased significantly, there has been a shift towards masculine behaviors.

The increase in arousal during intercourse in women is more sketchy than men. Regression can be influenced by exogenous factors – outside thoughts, negative interaction, discrepancy of sex role behavior of the partner, the range of acceptance and the technics of intercourse. In women, for the occurrence of orgasm, the psychological component of the copulatory cycle is a crucial factor, and neurohormonal - plays only supporting role.

Potential ability to orgasm in women is higher in comparison with men. Erogenous zones, which lead to orgasm are more diverse, while the male orgasm is often achieved only during stimulation of the penis. Some women are able to experience multiple orgasms, and, unlike men, subsequent orgasms experienced are stronger. In females, education and profession related to intellectual activity have a positive impact on the manifestation of libido and orgasm; in men, these factors have no effect. There is evidence that the libido and orgasm are more expressed in women with humanitarian education, least of all – in housewives. Women associated with physical labor, occupy an intermediate position. Also known, that anorgasmia in women is often a consequence of strict upbringing as a child.

Age sexuality. In human sexuality the are four main periods, each of which is characterized by certain sexual phenomena: puberty (wet dreams, masturbation), transitional (excesses), the period of mature sexuality (conditionally normal rhythm) and involution (decrease in sexual activity).

It should be noted the relative nature of age-related manifestations of sexuality (conditional rules), because it has a great influence by a number of endogenous and environmental factors (primarily social and psychological).

CONTROL QUESTIONS

1. Please give the definition of medical sexology.
2. What are the main elements in the concept of sexual health?
3. What are the stages of formation of sexuality according to modern sexology?
4. Give a description of each stage of the formation of sexuality.
5. What are the critical periods of sexual development? What factors have the greatest impact on those periods?
6. What causes the formation of the stereotype of sex-role behavior?
7. Describe the female sexual response.
8. Describe the male sexual response.
9. Name four components of copulatory cycle. Describe the importance of each component.
10. What are the major differences in male and female sexuality? What factors influence women's and men's sexuality?
11. What are the main periods of human sexuality in relation to the age characteristics?

LESSON 2

SEXUAL HARMONY AND ITS COMPONENTS

Duration of lesson: 2 academic hours.

The purpose of lessons: learn to identify sexual harmony of a couple and different aspects (components) of this harmony: the social, socio-psychological, sexual, behavioral, informational and evaluative, psychophysical, physiological.

Place of employment: training room, a computer room.

Equipment classes: tables, overheads, training literature, videos.

Sexual harmony of the couple – is a socio-psychological, psychological, sexual and behavioral and physiological sexual mutual adaptation of couple, which is characterized by a level of sexual desire and sexual activity, which corresponds to the sexual constitution and temperament of male and female, and leads to optimal summation of erotic sensations, orgasm and complete psychosexual satisfaction.

All these aspects, except for the physiological, display features of human sexuality. The need for reproduction in humans is in some way separated from the need for sexual pleasure and communication.

System analysis of sexual harmony of the above mentioned components can reveal the causes and patterns of their disorders occurrence – of sexual disharmony and, as a result, opens up the possibility of proper diagnostics and following correction.

Social, psychological and socio-psychological components of sexual harmony.

Complete equality of women in recent years, their active participation in society changed their role in the family, formed a high level of spiritual and ethical demands and the new nature of couple relations in the modern family. The stability of the couple is influenced to a great extent by internal factors, such as the mutual relationships, the feeling of love, responsibility and duty; and the external factors, such as economic dependence, legal restrictions, national traditions and public opinion, which lose their strength with the democratization of public life.

With an increase in the level of education and social change the pubertal development of both men and women is considerably accelerated, but sexual relations occur later, especially in women. This phenomenon is determined rather by public than biological factors. There has been a number of changes in family relations: redistribution of some functions of the family to other public institutions, reducing the size of the family, the democratization of family relations, the increased importance of emotional ties between men and women and reducing the role of wealth.

The problem of marriage and family in our time, has not only lost its relevance due to the importance of specific functions of the family for society, but also attracts more interest of psychologists, sociologists, lawyers, doctors in connection with the restructuring of family relations nowadays.

Family relationships are mediated by a common activity. The family, as well as a team, has specific features – in our days it is characterized by a rigid role structure in comparison with other groups and expressed emotional interpersonal ties. There are three levels of cohesion and compatibility:

1) of characters, temperament, sociability;

2) of functionally-role expectations;

3) the highest level in the form of domain-targeted and value-orientation unity, cooperative identification and adequacy of responsibility.

Currently, mutual adaptation of the couple has increased the role of the social and psychological factors that affect on their future compatibility. Harmony of personal relationships and the correct behavior contribute to the development and establishment of harmonious sexual relations.

The strength of the conjugal union is largely determined by the number of common, often matching (identical or complementary) qualities of the individual male and female. Herewith, the dependence of sexual behavior from the individuality is still poorly understood. Therefore, the study of the problem of adaptation of couples received much attention permanently.

The strength of the family, mutual happiness is largely dependent on the personal qualities of men and women and their social development, education and the ability to

use his experience and knowledge in their everyday life. Happy couples rarely suffer from sexual disorders, particularly from anorgasmia in women. Sympathy and mutual love, in most cases, is one of the main reasons of normal sexual relations and creation of a strong couple. Love is one of the main motives for marriage. It promotes the creation of a similar lifestyle of partners and is a significant factor in the normal sexual life. The feeling of love can not be innate. Love as the need and ability of a person –is an integral part of the human psychics. Love, affection and sexual satisfaction are closely linked. Ancient Greeks identified several types of love: "*eros*" - love between a man and a woman which gives pleasure only if the partner uses of the object of love; "*agape*" - love that is spiritual, not sexual, in its nature, which is directed only to the benefit of the love object; "*storge*"– love-tenderness, family love; "*philia*" - a love-friendship.

I.M.Sechenov identified three consequent phases in the development of sexual love. The first phase - platonic love, in which "the sexual nature is extremely poor due to the fact that, along with bright and, as a result, biased visual and auditory sensations lie uncertain, even dark sexual desires".

The second phase - the love-ownership in which the passion of human "flames up even faster, brighter, because instead of dark, uncertain sexual instincts come bright, vibrant feelings of love".

The third phase –is a love when "passion has faded, even in those happy occasions when both sides in line with the ideals of reality ... But love is not destroyed: through frequent repetition of the reflex, in which the mental meaning is representation of a beloved person with those, or other, or with all its qualities, this image is connected with all the movements of the loved soul, and becomes really half of it".

Next, I.M.Sechenov noted, that a person who has gone through all these natural phases of sexual love, would be unlikely able to feel in love for a second time. "Repeated attraction - a sign of dissatisfaction with previous".

Modern psychologists describe love as deeply intimate feeling directed at another person or human community. In love, as in focus, biological and spiritual, personal and social, intimate and universal features are opposite.

Love is a high degree of emotional positive attitude that makes it stand out among the other object and places in the center of vital needs and interests of the subject; strained, intense and relatively strong feeling of the subject, due to physiological sexual needs, manifested in social formed effort to be represented by their personal significant features in the life of another partner in such a way to arouse a mutual sense of the same intensity, tenseness and continuity.

Often the presence of specific features of character in one of the partners that cause negative attitudes can provoke the conflict between man and woman. Research in the field of character traits compatibility of the couple by N.K.Agisheva showed that in order to achieve harmony of relations, the personality traits, due to education, should be similar. Creating a harmonious relationship between man and woman becomes possible only if they have complementary features, but not the same.

Character traits can be divided depending on the attitude to people, to things, to ourselves, to the team and individuals, as well as adaptive communication properties. Women usually provide a greater warmth of feeling, softness, propensity to home; men are the carriers of masculinity, strength, they are more stricter. Besides this, feminine character traits include passivity, lack of confidence, conformity (awareness of variability of own opinion), modesty, timidity, sentimentality, dreaming. Masculine traits are emotional restraint, autonomy, isolation, explosiveness, aggression, self-confidence.

The problem of determining the character types and their classification is extremely complicated.

Coincidence of needs that are caused by both biological and social factors is of great importance for the social and psychological adaptation of the couple. Several types of needs can be distinguished: 1) physiological (sex, food, self-preservation, the need to obtain satisfaction); 2) socio-psychological (communication, activities); 3) social (professional career, culture, education, aesthetic needs, self-assertion, the implementation of their own capabilities, talents, the need for creative activity); 4) psychological (self-confidence, independence, curiosity, self-assertion).

Harmony of sex in couples greatly depends on the nature of interpersonal relationships, which are determined by the level of social, socio-psychological and sexually-behavioral adaptation of men and women, as well as the psychological characteristics of the individual, the dominant motivation and value orientations.

In the structure of interpersonal interaction there are three interrelated components that are in some way different in the opinion of different researchers: practical, affective, gnostic (A.A.Bodalev); behavioral, affective, cognitive (Y.L.Kolomna); regulatory, affective, informative (B.A.Lomov). Besides this, there is a variety of phenomena of interpersonal interaction: mutual understanding, reciprocal actions, relationships, interpersonal communication, compatibility. Motivation of partner's relationship is based on the need for selective interpersonal communication.

Compatibility of partners is characterized, above all, by the maximum satisfaction to each other. Affective component of interaction is a leading factor. The relationship of cognitive and affective components become apparent in harmonizing of self-evaluations.

The need of communication is not only the social essence of humans, but also its individual characteristics. Herewith, this desire to communicate depends on the type of the nervous system and characteristical features.

After analyzing the literature on the psychological preconditions of happiness in partner's relationships, E.V.Novikov has identified a number of characteristics of communication between men and women:

1) openness –the ability to freely discuss a variety of topics;

2) intimacy - the importance and depth of the topics that are discussed;

3) trust;

4) a high level of empathy in the couple;

5) constructivism – the ability not to win, but to find mutually acceptable solutions;

6) reflexivity –perception of these feelings and emotions, which are valuable.

One of the important features of the relationship between man and woman is empathy. There are three types of empathy: relationships, compassion and complicity. Their presence - a prerequisite of harmonical relations between spouses.

Unconscious motives and intrapsychic adaptation of the couple often play the role in the genesis of sexual disharmony. Without dwelling on the characteristics of psychological defense mechanisms (denial, retreat, displacement, replacement of motives, reducing the overall level of instincts, conceptualization, “the mechanism of conditional enjoyments or desires”, “disease care” and others), we should denote only that the psychological defense –is a reaction of the individual onto traumatic impact, and it’s character is conditioned by the interaction of conscious and self-aware attitudes, personality characteristics of men and women.

When sexual harmony of the couple is exposed to disorder, following options of psychological protection of the individual are possible: (V.V.Krishtal, N.K.Agishev):

1. Deviation of social behavior (hypersocialization, hyposocialization, antisocial behavior, including alcoholism, and others);
2. Deviation of social and psychological relationships (jealousy, betrayal justification, aggression, redemptive behavior);
3. Psychological deformation: a) exacerbation of personality traits; b) disperception; c) evaluative deformation (explanatory system, underestimation, overestimation, distorted assessment of the own state).
4. Deviation of sexual behavior (expansion of the range of acceptance in prelude, frustration, masturbation, promiscuity, petting, flirt, avoidance of sexual intercourse).
5. Somatic deviation - the development of psychosomatic diseases.
6. Psychic deviation - psychogenic illness (neurosis).

Each of these variants has different forms of psychological defense. But often there are combined psychological defense variants, which depend on the personal characteristics of the partners, the experience in the individual life, interpersonal and metapersonal characteristics.

Sexually-behavioral component of sexual harmony.

Sexually-behavioral adequacy in couple is an important condition of sexual harmony. There is a range of values that correspond to the suitability of a prelude to

sexual intercourse, sexual techniques and the final period of coitus. Prelude to sexual intercourse has a stimulating and activating effect on sexual desire and a feeling of orgasm. This period is important to properly influence on the erogenous zones, rather than duration of this influence.

One of the most common causes of violation of sexually-behavioral component of sexual harmony is the mismatch of sexual motivation. Motive is the incitement to activity responding to the needs of the subject, which is the basis for the selection of actions, and determines the direction of a person's behavior. As it known, the development of motive occurs through change and expansion of the range of activities which replaces objective reality. Motive specifies the needs and instincts, which are the source of activity.

There are following reasons: 1) primitive, which are based on satisfying the elementary selfish feelings of pleasure; 2) the motives that come out of a sense of self-preservation; 3) satisfaction of biological (instinctual) needs; 4) satisfaction of social needs.

G.S.Vasil'chenko distinguished several types of sexual motivation:

1) homeostabilizing type – sexual behavior is based on the establishment of peace and comfort in such a way, that sexual issues does not interfere with the fulfillmentof other tasks, estimated above;

2) the type of game – harmoniously combines the romantic and sexual elements in the sexual act, introduces an element of play, fantasy;

3) pattern-regulated type – establishes a certain constant standard of sexual intercourse;

4) genital type –is typical for persons with reduced intelligence, who do not see the difference between sexual desire and erection, considering the latter sufficient "reason to act".

Mismatch of sexual motivation may be a cause of sexual disharmony.

Certain types of men and women can be distinguish. Some combination of these types may be the basis of sexual harmony of couples or, on the contrary, contribute to it's disorders.

S.S.Liebig developed the following classification of psychological types of men and women:

1. *Women-Mother*.Usually looking for the weak, the sick, strives to take care of such a partner, to defend, “raise”, cheer, inspire. Weakness and misery of men can serve as a strong sexual stimuli. Even anxiety, emotional instability, whimsicality can be the part in the structure of prelude.

2. *Woman-Woman*. There are two versions of this type:

a) *aggressive type*: desire to fight with the partner, first in everyday relations and then in sexual intercourse. Such a woman prone to irony, likes to take the upper hand over the man, in the prelude expects obedience, even humiliation, some confusion;

b) *passive-slave type*: the ideal of such a woman –“strong man”,she seeks to obey, “dissolve” in him, in dreams she fantasizes about a man who “has her”; in the prelude prefer aggression, pressure, force, even to the infliction of pain.

3. *Woman-Daughter*. Ideal of such type of woman – a man much older in age, strongnot so much sexually, but in everyday life, experienced; in his presence tends to feel weak, “small”. In prelude prefers “art”, “knowledge, that higher than power”and is prone to psychological stimulant effects (voice, music, etc.).

The respective types of men:

1. *Man-Father*. Elderly, elegant, with great sexual experience, has a well-trained voice, tells fascinating. In prelude and caresses evaluates elements of woman’s “impact”, weakness, “guessing” her desires, needs. Those caresses can compensate already have low sexual potential.

2. *Man-Man*. Can be distinguished onto two types:

a) *aggressive*, prone to the elements of “violence”, “possession”, shows rude, brutal, categorical, sometimes can hurt;

b) *passive submissive* - tends to idealize the “strong woman”; in her talk, clothes allocates symbols of power, authoritarism, some masculinity (sportswear, boots, big sunglasses, men’s hairstyle, etc.). Underlines its humility, dependence, seeks to fulfill the instructions, awaits for punishment from the woman.

3. *Man-Son*. Dependent and subordinate, sometimes mentally and physically infantile. Emphasizes to indecisiveness, can be finicky, mannered.

From the above classifications can be seen that relations of Man-Father and Woman-Daughter can be almost harmonious, due to congruence of the desired and the obtained. The same conclusion can be drawn about the relationship of Women-Mother and Man-Son, women of aggressive type and men of passive slave type. Clearly, that Man-Father and Women-Mother will not have harmony, and the relationship between men and women who belong to the passive-slave type, represent one of the extreme variants of sexual disharmony.

Informative-evaluative component of sexual harmony.

Psychological readiness for living together, a basic knowledge of the marital relationship, culture and communication of feelings, as well as the right knowledge in questions of mental hygiene of sexuality that form the informative and evaluative components of sexual harmony, are of great importance in achieving it. Violation of this component can affect not only to mental, but also to physical well-being. There is a definite correlation between the mistake awareness of mental hygiene of sexuality, misjudgment of partner's sexual manifestations and general health. Dissatisfaction in aspects of feelings and relationships between men and women often leads to numerous complaints, the real reason of which is often hidden, consciously or unconsciously.

Total ignorance of wide information the young people about the physiology and psychology of sexual function and sexual health, on the one hand, direct or indirect iatrogenesis – on the other, act as the most common causes of sexual disharmony of couples.

Psychophysiological component of sexual harmony.

Physiological factors - temperament and sexual constitution are of equal importance in ensuring sexual harmony than the above mentioned psychological, social and other components.

Temperament can be defined as dynamic features (intensity, speed, tempo, rhythm) of mental processes and condition of the individual. Mismatch of temperaments of men and women can have a negative impact on their psychological and sexual adaptation.

The types of the nervous system by I.P.Pavlov, not only in quantity, but also on the main characteristics correspond to the four classic types of temperament. Comparing certain types by his classification with the typology of the Hippocrates - Galen, the famous Russian physiologist described them as follows:

1. Strong, balanced, movable type - *sanguine*. His nervous system has a great strength of the nervous processes, they are balanced and significantly mobile. Because of this those people are quickly, easily adapt to the changing conditions of life. It is characterized by high resistance to the difficulties of life.

2. A strong, balanced, inert type - *phlegmatic*. His nervous system is also characterized by considerable force and balance of the nervous processes, together with low mobility. Being in aspect of mobility opposite to sanguine, phlegmatic react calmly and slowly, not prone to changes in their environment; similar to the sanguine they have good resistance to strong and sustained strenuous activities.

3. Strong unbalanced type with a predominance of excitation - *choleric*. His nervous system is characterized, in addition to considerable force, by a predominance of excitation over inhibition. Distinguishes by more amount of vital energy, but lack of moderation, he is irascible and short-tempered.

4. Weak type - *melancholic*. People who belong to this type, are characterized by weakness of processes of excitation and inhibition, they have poor resistance to relatively large positive and negative incentives. Through this melancholic often are passive and inhibited. They effect of strong irritants can cause a variety of behavioral disorders.

Another property that is associated with the temporary characteristic of the nervous system, is the speed of occurrence and termination of nervous processes.

According to dynamics of neural processes, O.G.Ivanov-Smolensky identified four types of the reflex activity of the cerebral cortex:

1) *labile* - both positive and inhibitory conditioned connections are formed equally easily and quickly;

2) *inert* - both positive and inhibitory connections are created slowly;

3) *excitable* - positive connections are formed easily and quickly; braking, on the contrary, it is difficult and slow;

4) *braking* - positive connections are formed slowly; braking, on the contrary, is easy and fast.

Temperament is determined by the type of nervous system and its lability. Therefore, when analyzing the causes of sexual disharmony doctor must keep in mind the above types and properties of higher nervous activity in men and women.

Sexual constitution - one of the most important factors that determines the sexual harmony of the couple, or, conversely, its disharmony. The latter often is the result of sexual constitution of the couple type mismatch. Because of this, the definition of sexual constitution of each of the partners is of practical importance for the diagnosis and correction of disorders of sexual harmony.

G.S.Vasil'chenko considers sexual constitution is as a set of persistent biological properties that are influenced by hereditary factors and conditions of development in the prenatal period and during early ontogenesis. Sexual constitution limits the range of individual needs at a certain level of sexual activity and causes the individual's resistance against pathogenic factors that affect the sexual sphere.

Physiological component of sexual harmony

The influence of social and psychological factors on human sexuality can not be separated from the biological factors, as they are closely linked, and play a significant role in determining sexual relationship, defining a large variability of human sexuality.

Physiological component can be disrupted by disorders of neurohumoral, mental and nervous regulation of sexual function, as well as the pathology of the urogenital system in one or both of the partners.

Physiological state of the component is determined by the state of sexual harmony and mutual satisfaction of sexual function in men and women.

CONTROL QUESTIONS

1. Give the definition the sexual harmony of the couple.
2. What are the components of sexual harmony of the couple?
3. What are the levels of compatibility and unity of the couple?
4. Describe the consequent phases of sexual love by I.M.Sechenov.
5. What is the role of communication in the harmonious relationship in the couple? What characteristics of communication between men and women are important in this aspect?
6. Describe the options for psychological protection of the partners during sexual disharmony.
7. |Please describe sexually-behavioral component of sexual harmony.
8. Give the classification of psychological types of men and women.
9. Describe the informational and evaluational components of sexual harmony.
10. What is the importance of psycho-physiological component of sexual harmony? Characterise types of temperament by I.P.Pavlov.
11. What are the types of the reflex activity of the cerebral cortex? What is the significance of each type in the formation of sexual harmony of the couple?
12. Give the definition of sexual constitution.
13. What features has a physiological component of sexual harmony?

LESSON 3

ANALYSIS OF SEXUAL HARMONY IN COUPLES. QUESTIONS OF THE SEXOLOGICAL EVALUATION OF PARTNERS

Duration of lesson: 2 academic hours.

The purpose of the activity: to provide students with a systematic analysis of sexual harmony and learn to evaluate the all their components; to familiriaze the srtudents with modern questionnaires - the international index of erectile dysfunction (IIEF) and Female Sexual Function Index (FSFI) and methods of their evaluation.

Place of employment: training room, a computer room.

Equipment classes: tables, training literature, videos.

Sexual function, as already noted, is the only couple function, which is characterized by its multi-dimensional structure. Thus, the study of sexual harmony is a complicated and rather difficult task. Without proper understanding of the sexual harmony in all its aspects is impossible to study and establish the causes and circumstances of sexual disharmony. V.V.Krishtal and N.K.Agisheva had developed systematic structural analysis of sexual disharmony, which provides, depending on the level of interaction between the partners, the allocation of the following components: social, psychological, social, sexual, behavioral, psychophysiological and physiological.

In assessing the social component allocated socio-cultural, information and evaluation component. The first of these includes the determinants of social attitudes, ideological values of the couple, the cultural level of men and women. Informative and evaluative components are related to the awareness of the couple in matters of mental hygiene sexuality.

Socio-psychological component defines a custom contact of the couple and indicates compliance in family roles, interests, value orientations.

Sexual-behavioral component of sexual harmony includes factors that determine the orientation of sexual desire and the extent of erotic games, the range of

acceptability, technics of coitus. The assessment of this component should display the status of the two constituents: psychosexual behavior and erotic component. Psychosexual behavior is caused by social, psychological, mental and neurohumoral factors that determine sexual identity, gender role and psychosexual orientation of the couple. Erotic component is determined by the degree of compliance with sexual partner and erotic contact with the partner.

Psychophysiological components are assessed in accordance to temperament and type of sexual constitution of the couple. Physiological component covers state and mutual consistency of sexual function of men and women.

System analysis of sexual harmony consists of two stages: the first - estimation its components and assembling according to these criteria for each couple; the second - to determine the degree of violation of components, which makes it possible to clarify the role of each of them in the genesis of sexual disharmony.

To assess the condition of components and composite sexual harmony scheme the following criteria were developed.

State social component depends on the level of socio-cultural adaptation of the partners and their degree of awareness of mental hygiene sexuality.

A. criteria to evaluate the social components of sexual harmony

The socio-cultural component:

1) compliance with ethical and aesthetic attitudes of the couple;

2) the presence or absence of compliance of lifeview and beliefs of the partners;

3) compliance with social attitudes;

4) compliance with the cultural level of the spouses.

Informative and evaluative component:

1) the presence or absence of a correct idea of sexual manifestations, and normal sex life;

2) knowledge of the physiological and pathological oscillations of sexuality.

B. criteria to evaluate the psychological component of sexual harmony

1) The presence of these features in one of partners that cause negative attitude of the other.

2) corresponds to each of the partners in the desired manner in the representation of another;

3) Compliance with intelligence in the couple.

C. Criteria for assessment social and psychological component of sexual harmony:

1) The presence or absence of a sense of love for each other;

2) compliance of family-role behavior of partners;

3) compliance of the dominant motivation;

4) compliance with the value orientations;

5) compliance of desires in leisure activities;

6) compliance of material and social status requests of each partner.

D. Criteria for assessment of sexually-behavioral components of sexual harmony

Psychosexual development is estimated by:

1) sexual identity;

2) sexual behavior;

3) psychosexual orientation.

Erotic component - by:

1) the presence or absence of mutual adaptation in preparation for coitus,

2) both partners have mutually acceptable ways to implement sexuality and it is the one of the best enhances of the sexual arousal for each partner;

3) correspondence to the frequency and amplitude of frictions option, which provides optimal sexual feelings of the couple;

4) the presence or absence of action, optimizing the final period of coitus;

5) the ratio of sexual behavior of each of the couple expected shape (of expectations).

E. Evaluative criteria of psychophysiological component sexual harmony

1) Compliance with the temperament;

2) Matching of the type of sexual constitution.

F. Criteria to evaluate the physiological component of sexual harmony

1) compliance with the anatomical and physiological characteristics of the sexual sphere of the couple;

2) compliance with the sexual constitution of partners;

3) the presence or absence of symptoms, evidence of violations of copulative cycle in the couple.

To assess the state of the copulative cycle in men G.S.Vasil'chenko proposed the following criteria.

GENERAL

1) Libido:

- expression at the time of the survey (1st indicator SPS)

- ageof awakening libido;

2) the age of the first ejaculation;

3) masturbation (if any - clinical type of masturbation);

4) changes in the level (rate) of sexual activity:

5) excesses (maximal count and the age at which took place last coitus);

6) sexual abstinence:

7) whether there has been an awakening sexuality of his partner, and if so, over what period of time after the onset of sexual activity (indirect criterion);

8) the expression of secondary sexual characteristics;

9) trohanter index (and other morphological data).

Approximation of the diagnosis from the disease to diagnosis of patient is the highest stage of diagnosis, which should display causes, conditions and trends in the development of the disease, clinical features, and also take into account the nature of the pairness of sexual function, the level of social, psychological, social, psychological, sexual and behavioral adaptation of partners and the degree of awareness of mental sexuality hygiene.

Therefore, after a survey of partners there is a strong need to formulate a couple diagnosis and a diagnostic conclusion about the couple.

Conducting a systematic structural analysis allows properly assess the option of sexual disharmony and to determine the form of sexual dysfunction for both partners, the level of mutual adaptation and the degree of awareness of mental hygiene sexuality that provides the opportunity for the most effective treatment and preventive measures.

Determining the level of social and psychological and sexual-behavioral adaptation of couple

Of significant diagnostic importance there is the determination of the level of socio-psychological adaptation of the couple and the characteristics of their interpersonal relationships. O.T.Filatov offered special tables for studying forms of compatibility and the nature of interpersonal relationships, men and women.

Forms of compatibility of couples

I. Constitutionality and biocompatibility:

a) constitutional (appearance);

b) physiological;

c) sexual.

II. Psychological compatibility:

a) characterological;

b) intelligent.

III. Social compatibility:

a) interest;

b) orientation of the individual;

c) the individual consciousness.

Axiological aspect of compatibility in couple

I. General interpersonal relationships, which are dependent on:

- human qualities;
- features sexual partnerships;
- role positions in the family;
- material support;
- social status.

II. Interpersonal relationships between men and women, who do not have children:

a) the evaluation aspect of a man’s wife as a woman;

- wife;

- hostess;
- worker;
- public figure.

b) estimated aspect of male partner:

- men;
- employee;
- public figure.

III. Interpersonal relationships of couples who have children:

a) the evaluation aspect of a man's wife as a woman;

- wife;
- hostess;
- worker;
- public figure.

b) estimated aspect wife of her husband, as the host,

- men;
- employee;
- public figure.

Currently, universal questionnaires to fully assess the sexual function of men and women are created. The integral instruments for assessment sexual disfunctions of males and femal all over the world nowadays are the International Index of Erectile Function (IIEF) by R.Rosen (1997) and Female Sexual Function Index (FSFI) by R.Rosen (2000).

Below the type and structure of questionnaires are shown.

The International Index of Erectile Dysfunction (IIEF)

Instructions: *These questions ask about the effects your erection problems have had on your sex life, over the past 4 weeks. Please answer the following questions as honestly and clearly as possible. In answering these questions, the following definitions apply:*

Definitions:

Sexual activity includes intercourse, caressing, foreplay and masturbation

Sexual intercourse is defined as vaginal penetration of the partner (you entered the partner)

Sexual stimulation includes situations like foreplay with a partner, looking at erotic pictures, etc.

Ejaculate is defined as the ejection of semen from the penis (or the feeling of this)

Mark ONLY one circle per question:

1. Over the past 4 weeks, how often were you able to get an erection during sexual activity?

0 No sexual activity
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

2. Over the past 4 weeks, when you had erections with sexual stimulation, how often were your erections hard enough for penetration?

0 No sexual stimulation
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 **Almost never or never**

Questions 3, 4 and 5 will ask about erections you may have had during sexual intercourse.

3. Over the past 4 weeks, when you attempted sexual intercourse, how often were you able to penetrate (enter) your partner?

0 Did not attempt intercourse
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

4. Over the past 4 weeks, during sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?

0 Did not attempt intercourse
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

5. Over the past 4 weeks, during sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?

0 Did not attempt intercourse
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time) 0 A few times (much less than half the time)
4 Almost never or never

6. Over the past 4 weeks, how many times have you attempted sexual intercourse?

0 No attempts
1 1-2 attempts
2 3-4 attempts
3 5-6 attempts
4 7-10 attempts
5 11 or more attempts

7. Over the past 4 weeks, when you attempted sexual intercourse how often was it satisfactory for you?

0 Did not attempt intercourse
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

8. Over the past 4 weeks, how much have you enjoyed sexual intercourse?

0 No intercourse
1 Very highly enjoyable
2 Highly enjoyable
3 Fairly enjoyable
4 Not very enjoyable
5Not enjoyable

9. Over the past 4 weeks, when you had sexual stimulation or intercourse how often did you ejaculate?

0 Did not attempt intercourse
1 Almost always or always
2 Most times (more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

10. Over the past 4 weeks, when you had sexual stimulation or intercourse how often did you have the feeling of orgasm or climax (with or without ejaculation)?

0 No sexual stimulation or intercourse
1 Almost always or always
2 Most times (much more than half the time)
3 Sometimes (about half the time)
4 A few times (much less than half the time)
5 Almost never or never

Questions 11 and 12 ask about sexual desire. Let's define sexual desire as a feeling that may include wanting to have a sexual experience (for example, masturbation or intercourse), thinking about having sex or feeling frustrated due to a lack of sex.

11. Over the past 4 weeks, how often have you felt sexual desire?

0 Almost always or always
1 Most times (much more than half the time)
2 Sometimes (about half the time)
3 A few times (much less than half the time)
4 Almost never or never

12. Over the past 4 weeks, how would you rate your level of sexual desire?

0 Very high
1 High
2 Moderate
3 Low
4 Very low or none at all

13. Over the past 4 weeks, how satisfied have you been with you overall sex life?

0 Very satisfied
1 Moderately satisfied
2 About equally satisfied and dissatisfied
3 Moderately dissatisfied
4 Very dissatisfied

14. Over the past 4 weeks, how satisfied have you been with your sexual relationship with your partner?

0 Very satisfied
1 Moderately satisfied
2 About equally satisfied and dissatisfied
3 Moderately dissatisfied
4 Very dissatisfied

15. Over the past 4 weeks, how do you rate your confidence that you can get and keep your erection**?**

0 Very high
1 High
2 Moderate
3 Low
4 Very low

Scoring Algorithm for IIEF

All items are scored in 5 domains as follows:

Domain	**Items**	**Range**	**Score Max Score**
Erectile Function	1, 2, 3, 4, 5, 15	0-5	30
Orgasmic Function	9, 10	0-5	10
Sexual Desire	11, 12	0-5	10
Intercourse Satisfaction	6, 7, 8	0-5	15
Overall Satisfaction	13, 14	0-5	10

Clinical Interpretation

I. Erectile function total scores can be interpreted as follows:

Score	**Interpretation**
0-6	Severe dysfunction
7-12	Moderate dysfunction
13-18	Mild to moderate dysfunction
19-24	Mild dysfunction
25-30	No dysfunction

II. Orgasmic function total scores can be interpreted as follows:

Score	Interpretation
0-2	Severe dysfunction
3-4	Moderate dysfunction
5-6	Mild to moderate dysfunction
7-8	Mild dysfunction
9-10	No dysfunction

III. Sexual desire total scores can be interpreted as follows:

Score	Interpretation
0-2	Severe dysfunction
3-4	Moderate dysfunction
5-6	Mild to moderate dysfunction
7-8	Mild dysfunction
9-10	No dysfunction

IV. Intercourse satisfaction total scores can be interpreted as follows:

Score	Interpretation
0-3	Severe dysfunction
4-6	Moderate dysfunction
7-9	Mild to moderate dysfunction
10-12	Mild dysfunction
13-15	No dysfunction

V. Overall satisfaction total scores can be interpreted as follows:

Score	Interpretation
0-2	Severe dysfunction
3-4	Moderate dysfunction
5-6	Mild to moderate dysfunction
7-8	Mild dysfunction
9-10	No dysfunction

Clinical Application

IIEF assessment is limited by the superficial assessment of psychosexual background and the verylimited assessment of partner relationship, both important factors in the presentation of male sexualdysfunction. Analysis of the questionnaire should, therefore, be viewed as an adjunct to, rather thana substitute for, a detailed sexual history and examination.

The following guide-lines may be applied:

1. Patients with low IEEF scores (<14 out of 30) in Domain A (Erectile Function) may be considered fora trial course of therapy with Sildenafil unless contraindicated. Specialist referral is indicated ifthis is unsuccessful.
2. Patients demonstrating primary orgasmic or ejaculatory dysfunction (Domain B) should be referredfor specialist investigation.
3. Patients with reduced sexual desire (Domain C) require testing of blood levels of androgen andprolactin.
4. Psychosexual counselling should be considered if low scores are recorded in Domains D and E butthere is only a moderately lowered score (14 to 25) in Domain A.

Female Sexual Function Index (FSFI)

INSTRUCTIONS: These questions ask about your sexual feelings and responses during the past 4 weeks. Please answer the following questions as honestly andclearly as possible. Your responses will be kept completely confidential. Inanswering these questions the following definitions apply:

Sexual activity can include caressing, foreplay, masturbation and vaginal intercourse.

Sexual intercourse is defined as penile penetration (entry) of the vagina.

Sexual stimulation includes situations like foreplay with a partner, self-stimulation (masturbation), or sexual fantasy.

Mark ONLY one circle per question

Sexual desire or interest is a feeling that includes wanting to have a sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

1. Over the past 4 weeks, how often did you feel sexual desire or interest?

5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

2. Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?

5 Very high
4 High
3 Moderate
2 Low
1 Very low or none at all

Sexual arousal is a feeling that includes both physical and mental aspects of sexual excitement. It may include feelings of warmth or tingling in the genitals, lubrication (wetness), or muscle contractions.

3. Over the past 4 weeks, how often did you feel sexually aroused ("turned on") during sexual activity or intercourse?

0 No sexual activity
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

4. Over the past 4 weeks, how would you rate your level of sexual arousal (“turn on”) during sexual activity or intercourse?

0 No sexual activity
5Very high
4High
3 Moderate
2Low
1Very low or none at all

5. Over the past 4 weeks, how confident were you about becoming sexually aroused during sexual activity or intercourse?

0 No sexual activity
5Very high confidence
4High confidence
3 Moderate confidence
2Low confidence
1Very low or no confidence

6. Over the past 4 weeks, how often have you been satisfied with your arousal (excitement) during sexual activity or intercourse?
0 No sexual activity
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

7. Over the past 4 weeks, how often did you become lubricated ("wet") during sexual activity or intercourse?

0 No sexual activity

5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

8. Over the past 4 weeks, how difficult was it to become lubricated ("wet") during sexual activity or intercourse?

0 No sexual activity
5 Extremely difficult or impossible
4 Very difficult
3 Difficult
2 Slightly difficult
1 Not difficult

9. Over the past 4 weeks, how often did you maintain your lubrication ("wetness") until completion of sexual activity or intercourse?

0 No sexual activity
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

10. Over the past 4 weeks, how difficult was it to maintain your lubrication ("wetness") until completion of sexual activity or intercourse?

0 No sexual activity
5 Extremely difficult or impossible
4 Very difficult
3 Difficult
2 Slightly difficult
1 Not difficult

11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you reach orgasm (climax)?

0 No sexual activity
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)

2 A few times (less than half the time)
1 Almost never or never

12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax)?

0 No sexual activity
5 Extremely difficult or impossible
4 Very difficult
3 Difficult
2 Slightly difficult
1 Not difficult

13. Over the past 4 weeks, how satisfied were you with your ability to reachorgasm (climax) during sexual activity or intercourse?

0 No sexual activity
5 Very satisfied
4 Moderately satisfied
3 About equally satisfied and dissatisfied
2 Moderately dissatisfied
1 Very dissatisfied

14. Over the past 4 weeks, how satisfied have you been with the amount of emotional closeness during sexual activity between you and your partner?

0 No sexual activity
5 Very satisfied
4 Moderately satisfied
3 About equally satisfied and dissatisfied
2 Moderately dissatisfied
1 Very dissatisfied

15. Over the past 4 weeks, how satisfied have you been with your sexual relationship with your partner?

5 Very satisfied
4 Moderately satisfied
3 About equally satisfied and dissatisfied
2 Moderately dissatisfied
1 Very dissatisfied

16. Over the past 4 weeks, how satisfied have you been with your overall sexual life?
5 Very satisfied
4 Moderately satisfied
3 About equally satisfied and dissatisfied
2 Moderately dissatisfied
1 Very dissatisfied

17. Over the past 4 weeks, how often did you experience discomfort or pain during vaginal penetration?
0 Did not attempt intercourse
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

18. Over the past 4 weeks, how often did you experience discomfort or pain following vaginal penetration?
0 Did not attempt intercourse
5 Almost always or always
4 Most times (more than half the time)
3 Sometimes (about half the time)
2 A few times (less than half the time)
1 Almost never or never

19.Over the past 4 weeks, how would you rate your level (degree) of discomfort or pain during or following vaginal penetration?
0 Did not attempt intercourse
5 Very high
4 High
3 Moderate
2 Low
1 Very low or none at all

Index to evaluate the state of sexual function of women is composed with regard to its six major components: sexual desire, sensitivity and excitability, lubrication (vaginal moisture), orgasmic satisfaction with sexual intercourse, coital and/or post-coital discomfort/pain. Quantitative evaluation of the test results are not available, the best is the most positive points when answering each question.

CONTROL QUESTIONS:

1. Describe the methods of system analysis of sexual harmony.
2. Name and describe the components of sexual harmony.
3. What criteria are designed to assess the status of components of sexual harmony?
4. Describe the criteria for assessing the status of each component of sexual harmony.
5. What are the criteria proposed for the assessment of male copulatory cycle?
6. What is the structural “grating”, its role for system-structural analysis.
7. What should be displayed in the diagnostic output after a systematic structural analysis?
8. What are the methods for determining the socio-psychological adaptation of the couple?
9. Describe the structure of International Index of Erectile Dysfunction questionnaire.
10. Describe the structure of Female Sexual Function Index questionnaire.

LESSON 4

SEXUAL DISHARMONY IN COUPLES AND ITS CLASSIFICATION

Duration of lesson: 2 academic hours.

The purpose of the activity: to familiarize students with the terms of sexual disharmony. Examine the classification of disharmony, characteristics of individual variants of sexual maladjustment spouse socio-psychological, sexual and behavioral, disinformation and appraisal. Explore sexual disharmony caused by impaired sexual function in one of the couple due to the impaired male potency or disorders of sexual function in women. To get familiar with pathomorphism of couples sexual disharmony. To be able to analyze the conditions and transformation of pseudoimpotence and pseudofrigidity to sexual disharmony.

Place of employment: study room, computer room, urological and gynecological department.

Equipment classes: tables, overheads, tasks, sick men and women, educational literature.

TERMS OF SEXUAL DISHARMONY AND ITS CLASSIFICATION

A variety of causes and conditions of disharmony determines its manifestations and course. It became the basis of the classification of sexual disharmony in couple, developed by D.L.Burtyanskiy and V.V.Krishtal, who divided it on the following five options:

1. Socio-psychological desadaptation of couples;
2. Sexual behavioral desadaptation of couples;
3. Disinformative-evaluative type of sexual disharmony;
4. Sexual disharmony due to disorders of male potency;
5. Sexual disharmony due to sexual dysfunction in women.

The clinical differential diagnosis and differentiation of separate variants of sexual disharmony are important for selecting the most efficient methods of its correction and prevention of relapse.

Thus, let us underline the causes and conditions of development, as well as features of manifestation and course of individual variants of sexual disharmony in couples.

DESCRIPTION OF SPECIFIC TYPES OF SEXUAL DISHARMONY

Social and psychological disharmony in couples

The study of the causes and conditions of this variant of sexual disharmony showed that in majority of couples, it is composed of the violation of their interpersonal relationships with a tendency toward negative emotional reactions.

The most common cause of socio-psychological desadaptation is the lack of mutual feelings of love and respect; the presence of features of one of the partners, which is negatively perceived by another one; inconsistency of views, interests, ethical and aesthetic attitudes, role behavior in the; negative perception of the partner as a member of the couple.

In some cases, the reason for the low level of socio-psychological adaptation of the spouses is a discrepancy between financial and social status of the family needed for each of them.

Thus, the general mechanism of sexual disharmony in couples with socio-psychological desadaptation is a violation of interpersonal relationships.

The development of this type of sexual disharmony occurs, usually gradually. The most characteristic manifestation of it is the loss of libido and erectile dysfunction in males and decreased libido and anorgasmia – in females. Isolated decrease of libido, erection or ejaculation in men and orgasm in women are less commonly observed. It should be noted that sexual disorder in such cases is relative and is manifested only in relation to a partner. Sometimes sexual disharmony does not occur, despite the low level of socio-psychological adaptation of the spouses. This is observed in individuals with a strong type of sexual constitution.

As a consequence of the socio-psychological desadaptation of partners pseudoimpotence or pseudofrigidity may develop, that lead to a decrease in sexual activity, and are accompanied by a weakening of libido and erection in men, and alibidemia and hypoorgasmia in women. In these cases, the data obtained from the male

section of questionnaire indicate depressed mood before sexual intercourse, sexual weakening and weak erection. SFF indicators show a negative attitude towards sexual activity of male partner, lack of orgasm and depressed mood after intercourse.

System-structural analysis of sexual harmony with the socio-psychological desadaptation of couple detects the presence of primary violation of socio-psychological component in such cases. This leads to an accompanying weakening of sexual-behavioral component, which determines the occurrence of sexual disharmony.

Concerning the physiological component in the presented variant of sexual disharmony, it neurohumoral, erectional and ejaculatory components in males and neurohormonal and genito-segmental components in females are usually preserved. At the same time, the mental part of the physiological component is weakened in both partners, due to neurotic and emotional disorders with exacerbation of their personality traits.

Psychological studies of couples with sexual disharmony show that partners quite common have the following features, as despotism, self-love, cruelty, negativism, alarming suspiciousness, dependency, affective instability, passive submission, victimhood, pathological isolation. There is some dependence: the younger is couple, the less their life and marital experience, the more often they meet psychological desadaptation.

Socio-psychological desadaptation is more common in people with high educational index. In large families psychosocial desadaptation of couple is rare, but usually occurs in conditions of cohabitation of the spouses with their parents or other relatives.

The couple with sexual disharmony caused by socio- psychological desadaptation, as a rule, has a various forms of neurotic reactions, which are based on the conflict situation in the family (not sexual). The severity of neurotic reactions is affected by the degree of relevance of sexual disharmony to the partners, their constitutional, personal and typological features.

Sexually-behavioral disharmony in couples

Sexual disharmony can develop as a result of non-compliance of range of acceptability, lack of optimal techniques and conditions to sexual intercourse. Sexual disorders in such a couple, as a rule, are relative.

The development of this variant of sexual disharmony may is usually caused by the following reasons and conditions:

1) lack of adequate actions to sexual arousal in the prelude (preliminary period of sexual intercourse);

2) incompatibility of pose choice during intercourse that is optional for enchancing the sexual arousal;

3) lack of actions, optimizing the final period;

4) the presense of forms of sexual behavior of one of the spouses which do not meet the expected or desired model.

The development of sexual disharmony due to sexualy-behavioral desadaptation starts of the first sexual intercourses.

With this type of sexual disharmony the following clinical manifestations in men are frequently observed: reduction of erection and premature ejaculation, which can be isolated or combined. In the future, in connection with the sexual failure, a decrease in sexual activity is seen, that lead to developing of hypo- and alibidemia and dull orgasm.

In women with sexualy-behavioral desadaptation of couple sexual hypoesthesia with anorgasmia are more likely to develop, later - decreased libido until alibidemia can be observed.

Both in men and women with strong sexual constitution sexualy-behavioral desadaptation cannot lead to the development of their sexual function disorders for a long time. However, the lack of an optimal level of sexual behavior contributes to the discomfort in one or both of the partners, which changes their attitudes towards sexuality and leads to negative trends.

State of sexual function of men in the above cases is characterized (according to the questionnaire IIEF) by depressed mood before intercourse, decreased sexual provocacy weak erection or premature ejaculation, as well as a decrease in mood after sexual

intercourse. Female FSFI questionnaire results are characterized by negative attitudes toward sexual activity of men, lack of orgasm and low mood after sexual intercourse.

System-structural analysis of sexual harmony often reveals an isolated weakening of sexually-behavioral component or combination with a reduction in informative and evaluative components. Socio-psychological and physiological components of sexual harmony in such cases are usually preserved. Psychological research reveals that in such couples, one or both of partners have features of selfishness, self-centeredness, despotism, narcissism, passive subordination.

As like as in couples with socio-psychological desadaptation in this form there is an inverse proportional relationship between the frequency of sexual disorders with age, life experience and general cultural level.

Factors leading to the development of sexually-behavioral desadaptation of couples are such features of their personality as infantilism, pathological isolation, anxious suspiciousness.

This variant of sexual disharmony, usually become complicated by a variety of neurotic reactions and conditions, which are a consequence of stressful family relationships. Their clinical formation depends on the depth and nature of the conflict, interpersonal relationships within the family, as well as the constitutional and typological features of the partners.

Desinformative-evaluative version of sexual disharmony

The development of sexual disharmony may be due to lack of sufficient knowledge of normal physiological range and pathology of sexual function. It may also be the result of inadequate background of young couples to family life and the lack of sexual experience, which often leads to misinterpretation of the sexual manifestations by the couple. This often contributes role to psychological induction coming from the others, and random sources, opinions and advices which may lead to formation of wrong attitudes and psychological settings in insufficiently skilled persons. Under certain conditions they lead to detection of non-existent defects, inadequate requirements concerning their own person.

Development of this variant is often subacute. In this case, disorders of sexual function in the full sense of the word are not observed. However, a weakening and possible loss of psychosexual satisfaction can develop. The sexual disharmony arising from this are due to pseudoimpotence and pseudofrigidity in origin.

Condition of sexual function in men and women (according to the questionnaires IIEF and FSFI) in this variant of sexual disharmony is characterized by depressed mood only before sexual intercourse and after it. With regard to other indicators of sexual function (libido, erection, duration of sexual intercourse, orgasm and sexual activity in men, as well as libido, sexual sensation, orgasm and sexual activity in women), they tend to correspond to the sexual constitution and age criteria.

System-structural analysis of sexual harmony in this cohort of individuals reveals that they have a primary violation of informative and evaluative components of sexual harmony while preserving the socio-psychological, sexually-behavioral and physiological components.

Psychological studies of couples with desinformative-evaluative sexual disharmony reveal signs of heightened suggestibility. Their sociological characteristics indicates a relationship between the frequency of misinformation and the level of general culture of the partners, their age and experience.

Clinical experience shows that this variant is observed mainly in patients with signs of mental infantilism, as well as in those with anxious features, pathological suspiciousness and insularity, it is usually combined with the development of a variety of neurotic reactions, which clinical manifestations are largely conditioned by typological features of each of the partners.

Sexual disharmony due to disorders of sexual function in one of the partners

The development of sexual disharmony in couples, among other reasons, may be also due to disorders of sexual function in one of the partners.

In diagnostic and therapeutic practice often doctors often to meet with male potency disorders and manifestations of frigidity. From experience, they lead not only to a lack of harmony in the marital relationship and the development of neurotic

reactions in one or both of the spouses, but also due to the pairing of the sexual function, to development of sexual disorders of the other partner. In the clinical signs of sexual disharmony arising from these reasons, a certain role is played by sexual constitution and the personality features of each partner.

Violation of sexual harmony, which is extremely actual for the couple, is always accompanied by personal reactions to the situation of both partners. The form of neurotic response of each of them depends on a number of pathoplastic factors and, above all, of their typological and personality traits. In such cases secondary neurotic reactions can adversely affect sexual function, thereby closing the “vicious circle” of factors that deepen existing sexual disorder.

Sexual disharmony due to erectile dysfunction in males.

The development of sexual disharmony of couple at disorders of male potency, depending on its shape is due to the weakness of erection, premature ejaculation and decreased sexual activity of men.

It should be noted that the reaction of women to male sexual weakness depends on the clinical form of the primary potency disorder. Reaction of women to secondary disorders of male potency is more selective. Most women, for example, is much harder influenced by sexual weakness of men due to alcohol abuse and, at the same time, less grieved to male potency disorders due to physical illness.

In general, the cause of sexual disharmony of this type is not so much the clinical form and the character of the existing sexual disorders in men (quality of erection, duration of sexual intercourse, sexual activity), as well as the constitution of the woman, her typological features, value of sexual life for her and level of psychological adaptation of partners.

The most characteristic manifestation of sexual disorders in women with respect to potency disorders in males is anorgasmia, which can be later joined by hypo- or alibidemia and sexual hypoesthesia. With the described variant, the women often develop pseudofrigidity that later in some of them in an unfavorable situation can be

transformed into pathoreflex form of frigidity or situational neurosis with symptoms of secondary frigidity.

System-structural analysis of sexual disharmony in this case reveals the violence of physiological component of sexual harmony, which sometimes leads to the subsequent weakening of the sexually-behavioral component.

According to IIEF questionnaire these cases show a decrease in erection and duration of sexual intercourse, which leads to a decrease in the frequency of sexual acts, depressed mood before intercourse and after it. FSFI questionnaire often indicate a negative attitude towards sexual activity, lack of orgasm, depressed mood after intercourse and unreacted feeling of sexual arousal, which does not disappear for a long time.

It should be noted certain dependence that is observed in men with potency disorders: the younger they are, the less marital experience they have, the more often they develop the pathoreflex form of primary potency disorders; in average age disorders are more often deregulatory, and in the elderly males – abstinential.

Socio-psychological studies of couples show that pathoreflex form of primary potency disorders is most often seen in conditions of living together with couples' parents or other relatives, as well as in the presence of male's, affective and unstable character. One or both of the spouses in this variant of sexual disharmony often develop different forms of neurotic reactions. Their expression and manifestations are dependent of the typological characteristics of each spouse and the importance of them for violations of sexual harmony can be variative.

Sexual disharmony due to disorders of sexual function in females

Sexual disharmony in couple may develop due to sexual dysfunction in women, such as frigidity, vaginism and genitalgia. The development of sexual disharmony in couple due to frigidity may be due to a decrease in libido, sexual hypoesthesia and anorgasmia in women, which often leads to their negative attitude towards sexuality. It should be noted that the development of sexual disharmony in females with vaginism and genitalgia is induced by inability of normal sex life due to painful muscle spasms

of the vagina, pelvic floor, thighs and abdominal wall or a variety of painful sensations in the female genital area, while trying to carry out a sexual act.

Keep in mind that the reaction of the men on sexual coldness of partner reveals a certain dependence on the type of his sexual constitution, the importance of sexual activity for him and his constitutional and personal, typological features. The most characteristic clinical manifestations of frigidity in women are alibidemia and sexual hypoesthesia. This leads to a reduction of sexual activity and development of erectile dysfunction in a substantial portion of their partners. Due to incorrect interpretation of those phenomena development of pseudoimpotentce can be seen in some men, that later under certain conditions can be transformed into a patoreflex form of potency disorders or situational neurosis with secondary sexual weakness.

System-structural analysis of sexual harmony in these cases, reveals the presence of physiological component weakening due to violations of neurohumoral, mental and genito-segmental components of copulative cycle, depending on the causes of frigidity. The weakening of the physiological component of sexual harmony leads to a weakening of the sexually-behavioral component that deepens sexual disharmony.

The FSFI questionnaire in such cases indicate a lack of orgasm, changing attitudes towards sexual activity, deterioration of health and mood after intercourse. IIIF indicators show a decrease in sexual enterprise and mood before and after the act, which may lead to a weakening of erection.

As with men in disorders of sexual potency in women with different forms of frigidity there is a certain relationship between the frequency of one or another form of frigidity during age and experience. Pathoreflex form of frigidity is most common in young age(in women with a slight marital experience), disregulatory form - in middle age, withdrawal form – in the elderly.

Psychological research suggests that women with features of anxious suspiciousness and hysteric features of character often develop pathoreflex form of frigidity. The development of neurotic reactions in one or both of the spouses at the described variant of sexual disharmony depends on the same factors as in the development of sexual disharmony due to disorders of male potency.

CONTROL QUESTIONS

1. Give the classification of sexual disharmony of couples.
2. What are the main causes of socio-psychological desadaptation of couples?
3. What characterological features are present in the males and females with sexual disharmony of socio-psychological origin?
4. What are the causes and circumstances of sexually-behavioral disharmony?
5. What is desinformative-evaluative variant of sexual disharmony?
6. What are the causes of the development of sexual disharmony due to erectile dysfunction in males?
7. What sexual disorders in women can cause sexual disharmony?
8. What is frigidity and pseudofrigidity?
9. What sexual dysfunction occurs in men with sexual disorders of their partners?
10. Women with what characterological traits often form pathoreflex form of frigidity?

LESSON 5

FEMALE HYPOACTIVE SEXUAL DESIRE DISORDER

Duration of lesson: 2 academic hours.

The purpose of the activity: to study the etiology and pathogenesis of sexual dysfunction in women. To identify reasons women willingly initiate/agree to sex – with a view to understanding why some do not. To review a model of sexual response that permits motivations, for being sexual, over and beyond sexual desire. To outline the assessment of low desire and the associated low arousability, thereby identifying therapeutic options. To review psychotherapy, pharmacotherapy, and the biopsychosexual approach to the management of women sexual pathology.

Place of employment: study room, computer room.

Equipment classes: tables, video.

The term “female hypoactive sexual desire disorder” clearly focuses on lack of sexual desire, as opposed to lack of interest or motivation (reasons/incentives), to be sexual. It encourages the belief that sexually healthy women agree to sex or initiate it mostly because they are aware of sexual desire – before any sexual stimulation begins. Indeed, this is in accordance with the traditional model of human sexual responding of Masters, Johnson, and Kaplan. In that model, after an unspecified time of awareness of desire, arousal occurs. As we will see, this conceptualization contradicts both clinical and empirical evidence – women in established relationships infrequently engage in sex for reasons of sexual desire. That sense of desire, or need, or “hunger” is nevertheless felt once subjectively aroused or excited. When that arousal is insufficient or not enjoyed, motivation to be sexual typically fades. In other words, although not usually the prime reason for engaging in sex, enjoyable subjective arousal is necessary to maintain the original motivation. So, lack of subjective arousal is key to women complaints of disinterest in sex. However, their distress is typically presented in terms of “absent desire,” as, again stemming from Masters and Johnson’s model, the focus of arousal complaints has been on genital congestion rather than the subjective experience.

This is despite the fact that psychophysiological studies of women with chronic arousal complaints show genital congestion in response to erotic videos that is comparable to healthy controls. This imprecision presents a major dilemma to both clinicians and the women requesting their help.

Any formulation of a hypoactive sexual desire/interest disorder must take into account the normative range of women sexual desire across cultures, age, and life cycle stage. For instance, the postpartum period is normally sexually subdued. Desire for sex typically lessens with relationship duration and increases with a new partner.

Women's sexual enjoyment and desire for further sexual experiences were acknowledged early last century. Before that time, there had been variable denial or intolerance and endeavors to curb women's sexuality. Unfortunately, subsequent to that acknowledgement, came the assumption that women's sexual function mirrors men's experiences. Two particular aspects are fundamentally different. First, the majority of sexually healthy women do not routinely sense sexual desire before sexual stimulation begins; and second, women's sexual arousal is not simply a matter of genital vasocongestion. These misconceptions have led to:

1. the perception that as many as 30–40% of women in nationally representative community studies have abnormally low sexual desire;
2. current research to find a "desire" drug for women;
3. misunderstanding of women's viewpoint of lack of arousal (incorrectly assuming for the majority that genital congestion is impaired).

Thus, lack of subjective arousal has been subsumed under lack of desire. Women have great difficulty in distinguishing loss of desire/interest, from loss of arousal/ pleasure/intensity of orgasm. The comorbidity of desire, arousal, and orgasm disorders is clear. The only published randomized controlled trial using physiological (or at least close to physiological) testosterone supplementation did not result in any increased "desire" as in having sexual thoughts, over and beyond placebo, but did show increased pleasure and orgasm intensity and frequency. Subjective arousal was not reported, but, given the improvement in pleasure and orgasmic experiences, its improvement is implied.

Reasons women initiate or accept sexual activity with their partners

Both the literature and clinical experience attest to the large number of reasons that sexually motivate women. Many of these are to do with enhancingemotional intimacy with the partner. Further reasons include increasing the woman's sense of well-being, of attractiveness, womanliness – even to feel more normal. Simply wanting to share something of herself that is very precious, to sense her partner as sexually attractive (be it his/her strength and power, or ability to be tender/considerate – or both), are further reasons. Incentives that might superficially appear unhealthy are also common, for example, to placate a needy (and increasingly irritable) partner, or "do one's duty." When the experience proves rewarding for the woman such that part way through she herself starts to feel – that she, too, would not wish to stop – it becomes unclear whether the original reasons (to placate/do one's duty) are truly unhealthy. The concept of "rewards" or "spin offs" from being sexual is currently being empirically researched.

Model of sexual response showing various incentives and motivations to be sexual and arousal triggering and accompanying desire

For one or more of the earlier mentioned reasons, a woman choosing to be receptive to sexual stimuli (or to provide them) can subsequently become sexually aroused. The degree of emotional intimacy with her partner that may have even been the major motivating force, is also a very important influence on her arousability to the sexual stimuli. Various other psychological and biological factors will influence this arousability such that the processing of the sexual information in her mind may or may not lead to subjective arousal. On those occasions she becomes subjectively aroused, providing the arousal remains enjoyable, and the stimulation continues sufficiently long, and she remains focused, then the arousal can become more intense and an urge or "sexual desire" for more of the sexual sensations and emotions is triggered. This accessed or "triggered" sexual desire and the subjective arousal continue together, each reinforcing the other. A positive outcome, emotionally and physically, increases the woman's motivation to be sexual again in the future (Fig.1).

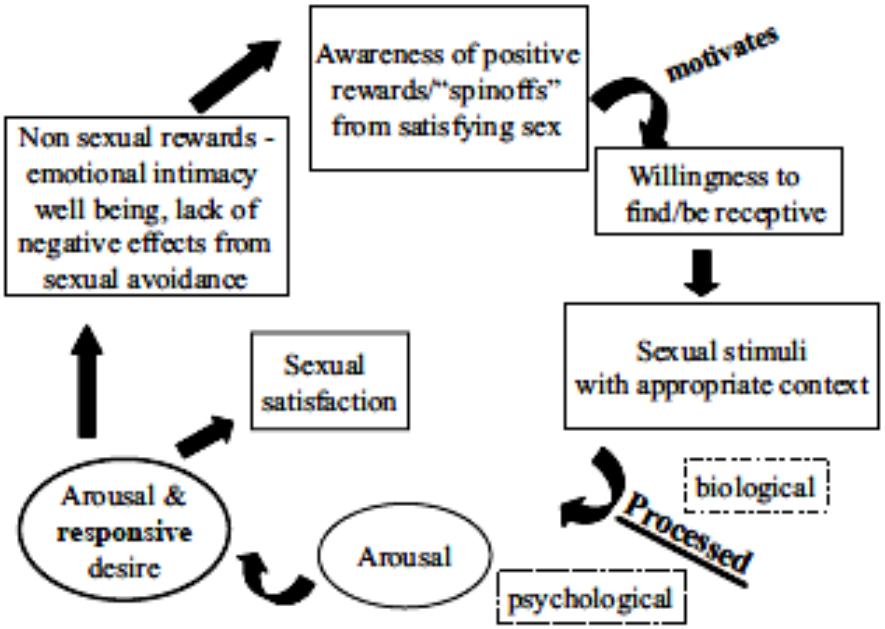

Fig. 5.1. The cycle of women sexual motivation.

Sexual desire that appears to be innate or spontaneous and reflected by sexual thoughts/fantasies, awareness of wanting sexual sensations per se before any activity actually begins, may or may not augment or sometimes override the previously described cycle. Typically, women are more aware of this type of initial desire early on in their relationships. For some women, it continues for decades even with the same partner. But for the majority, it is infrequent.

Some would argue that there is no such thing as apparent innate or spontaneous desire. This presupposes that desire is always part of arousal, triggered by a stimulus with a sexual meaning. It is facilitated or inhibited by situational and partner variables, such that sexual motivation will occur only when appropriate sexual stimuli are present and the woman has a sufficiently arousal and responsive For most people, their sexual response system reacts with the stimuli in an automatic effortless manner.

Sexual arousablity

Given the importance of responsive desire as well as any initial desire, when addressing the subject of hypoactive desire disorder, the entity of women's arousability

becomes extremely important. Psychological, contextual, and biological factors influence the processing of stimuli in the woman's mind. Psychological factors include those from the past to do with her upbringing particularly any losses, traumas (physical, sexual, emotional), her past interpersonal relationship – both sexual and nonsexual, encompassing cultural and religious attitudes especially restrictions. Contextual factors include any current interpersonal difficulties, partner sexual dysfunction, inadequate stimulation, and unsatisfactory sexual and emotional contexts. Medical conditions, psychiatric conditions, medications, substance abuse may all affect her arousability also.

Traditional markers of sexual desire

Evidence from nationally representative community samples of midlife women confirms that spontaneous sexual thinking is rather infrequent in the majority of sexually healthy women in long-term relationships.

Fantasies, which are a marker of sexual desire in DSM-IV-TR may, in fact, serve as a deliberate means of creating arousal and reinforcing desire. Data confirm the clinical experience that women fantasize to deliberately focus on their sexual feelings and avoid the distractions that are interfering with their sexual response.

Awareness of sexual desire is not the most frequent reason women accept or initiate sexual activity.

Assessment of low desire/interest and the associated low arousability to identify therapeutic options.

The DSM-IV-TR definition of hypoactive sexual desire disorder is problematic because its only focus is on initial desire, does not acknowledge the many reasons that motivate the woman towards sexual activity, and ignores the broad range of frequency of fantasies among sexually healthy women. An international group has recently proposed the following definition for women's sexual interest/desire disorder

There are absent or diminished feelings of sexual interest or desire, absent sexual thoughts or fantasies and a lack of responsive desire. Motivations (here defined as reasons/incentives), for attempting to become sexually aroused are scarce or absent.

The lack of interest is considered to be beyond a normative lessening with lifecycle and relationship duration.

Note that it is the additional lack of responsive desire that indicates dysfunction. The word “interest” was preferred (to desire) given the aforementioned relative infrequency of desire being the reason/incentive for engaging in sexual activity. However, for practical purposes of literature review, both words were included in the definition.

There is no clear division between assessment and management of desire/ interest concerns. The assessment often makes it clear why motivation is lacking, what is amiss with the context, what may be negatively influencing her arousability, and what is unsatisfactory about the outcome. The assessment is biopsychosocial as well as sexual and is aimed at identifying predisposing, precipitating, and maintaining etiological factors. Given the women’s sexuality is so contextual and given the known importance of partner factors including emotional intimacy, and sexual well-being of the partner, there is need to interview both partners. Ideally, the couple is seen together as well as separately.

A hypothesis that women, and men, have a variable proneness to sexual excitement as well as a variable inhibition, is currently being scrutinized. This variability may or may not be genetically programmed. Early results suggest that women are more prone to inhibition than men, and this inhibition is more to do with negative consequences of activity, than fear of performance failure. Theoretically, women with higher inhibition proneness are more vulnerable to low desire/interest, whereas high-risk sexual behaviors may be a reflection of low proneness to inhibition.

Lack of appropriate sexual context and sexual stimulation is a frequent precipitating and maintaining cause of low interest/desire. Common examples include too little nongenital caressing and lack of privacy or safety. Interpersonal issues can be both precipitating and maintaining, particularly when there is minimal emotional intimacy with the partner. Expectation of a negative outcome, for example, from dyspareunia or partner dysfunction is a further potent precipitating and/or maintaining factor. Clearly, a number of factors usually contribute. Occasionally, women with an emotionally traumatic past tell of sexual interest only when there is minimal emotional closeness

with the partner in question. In other words, there is inability to sustain that interest/ desire when emotional intimacy with the partner develops. This is, therefore, a fear of intimacy – not strictly a sexual dysfunction.

A closer look at the biological basis of women's sexual desire and arousability including the role of androgens

The neuroendocrine basis of sexual desire/interest is poorly understood. The effects on sexuality of medications with known or partially known mechanisms of action suggest that more than 30 neurotransmitters, peptides, and hormones are involved in the sexual response. Currently, the most clinically important include noradrenaline, dopamine, oxytocin, and serotonin via 5HT1A and 5HT2C receptors – all considered to be prosexual. Serotonin acting via most 5HT receptor sites, prolactin, and GABA, are considered sexually negative. The role of dopamine has been investigated particularly in rodents. Dopaminergic input from the ventral tegmental area, particularly to the nucleus accumbens and forebrain is important for cognitive and reward processes. Dopamine administration into the nuclear accumbens has been found to stimulate the anticipatory phase (or appetitive phase) of a sexual activity. The paraventricular nucleus and the medial preoptic area of the hypothalamus regulate the anticipatory/ motivational phases of rat copulation as well as the physiological changes of genital engorgement. Introducing a male hamster increases the dopamine in the nucleus accumbens in the female hamster along with her increased sexual activity. Even in animals, the effects of experience can be seen – there is more dopamine accumulation and for a longer time period in female hamsters that are sexually experienced than in those who are sexually naıve. In oophorized female hamsters, progesterone administration after estrogen priming leads to increased numbers of sex hormone receptors in the medial preoptic area. Interestingly, dopamine administration has the same effect as does environmental change – namely the presence of a male hamster.

Brain imaging of women during sexual arousal shows activation of areas involved in cognitive appraisal of the stimuli, namely the orbital frontal and anterior cingulate areas, and other areas involved in the emotional response to arousal including the rostral

anterior cingulate. The latter and the posterior hypothalamus also imaged, are involved in the organization and perception of genital reflexes. Of interest, areas in the basal ganglia and temporal lobes that had shown activity in the nonsexually aroused state are no longer imaged during arousal, suggesting that they are involved in tonic inhibition.

Hormones can be measured during the sexual response, but these findings may reflect the consequence of sexual response rather than cause (e.g., oxytocin increases with arousal and prolactin increases after orgasm).

Estrogen is known to affect mood and sleep and so its central action may indirectly influence sexual response. That postmenopausal estrogen therapy causes improvement in well being, sleep, and vasomotor symptoms, is evidence based, but there are few scientific data to suggest that sexual benefit is afforded by relief of these particular symptoms. The role of androgen in women's sexual desire and arousability is currently under investigation. Although there is consensus that androgens are needed for sexual response, scientific study of androgen therapy with physiological amounts of androgen is only just beginning. It is also unclear whether the aromatization of testosterone to estradiol within the cell is essential, or whether instead or in addition, activation of the androgen receptor is essential. Areas of high density androgen receptors in women's brains also have high aromatase activity. Thus, the whole question of whether any benefit of testosterone administration to women is actually due to making estrogen more available (by decreasing SHBG) remains unsolved. The major androgens include the proandrogens, dehydroepiandrosterone sulfate (DHEAS), dehydroepiandrosterone (DHEA), androstenedione, plus testosterone (T), and dehydrotestosterone (DHT). Output of adrenal androgen decreases from the early 30's onwards. Ovarian androstenedione is consistently reduced in mid- and later life. Studies are less conclusive regarding ovarian T production after natural menopause, with evidence of both reduced and increased production. Two recent small studies have shown a gradual decrease of T in women through their 40s with loss of mid-cycle peaks of T and androstenedione. Studies across the menopause transition show either a minimal decrease or even an increase. Despite further reduction in adrenal androgen, in some women there may be increased production of ovarian T through the next two decades.

On the other hand, some women show very low levels of ovarian production given the T levels in a large group of older women, after natural or surgical menopause were similar. Both of these groups of women were receiving estrogen therapy. Cross-sectional and cohort studies of sexual response and T values are inconclusive. Either there is no correlation between T levels and sexual variables correlation with estradiol levels but not T, or a correlation of free-T with levels of sexual desire . There have been several short-term randomized con- trolled studies of T administration to women complaining of diminished sexual interest and satisfaction. An improved outcome has been found by most but not all of these trials, but the T levels produced were not clearly within the physiological range. The study with levels closest to the physiological was of oophorized women, and showed benefit only in older women receiving 300 mg/day of transdermal T, with corresponding blood levels at or slightly above the normal range for premenopausal women. Of note, the correct range for postmenopausal women is unclear. A very recent study of T administration to premenopausal women did show benefit over placebo, but the free androgen index was above the upper limit for normal premenopausal women. Of major importance is the fact that these studies have been only of short duration, and, therefore, safety data are very limited. Moreover, only estrogen replete women have been studied.

Despite documented progressive loss of DHEA and DHEAS in women from late 30s onwards, the results of DHEA supplementation to improve sexual health have been conflicting.

The term androgen deficiency syndrome has been used recently. However, the usual criteria used in endocrinology for establishment of a deficiency state have not been met. These include:

1. Symptoms regularly associated with low levels of the hormone;
2. Relationship of symptoms to the established biological actions of the hormone;
3. Reversal of symptoms on administration of the hormone in doses which are physiological and not pharmacological.

None of these criteria is fully met in the case of androgen deficiency syndrome. In addition, a specific level of testosterone in women, which can be considered diagnostic of androgen deficiency, has not been established.

Some of this confusion may be in part owing to problems in measuring T, including a lack of assay specificity. Free-T is preferably measured by equilibrium dialysis, but this is rarely available in clinical practice. Free-T correlates more closely with the biological effects of the hormone than does the total because most of the circulating T is bound to SHBG which prevents diffusion into tissues. Unfortunately, the analogue assays for free-T are inaccurate. Free-T can be calculated if the total T, albumin, and SHBG are known. However, at the low levels of T found in women, few assays of total T are reliable. Whichever assay is used, thorough validation is necessary. Another major complicating factor is that much T activity within the cell is derived intracellularly from ovarian adrenal precursors. This intracellular T cannot be measured. Estimating T activity from measuring testosterone metabolites is not yet standardized.

There is clearly a clinical dilemma. Clinicians repeatedly see previously responsive women markedly distressed from their lost arousability – none of their formerly useful stimuli are effective. Typically, this is of gradual onset in the late 40s or early 50s. Loss of innate sexual thoughts and fantasies is not the issue. The context of their sexual lives has not changed – they speak of a sexual “deadness”. Accurate measurements of T activity and long-term randomized controlled trials of physiological T therapy are very much needed. Clearly, this loss of arousability appertains to just a subgroup of mid-life women – perhaps partially explaining the inconsistencies amongst reports of T levels of women in mid-life and older in the general population.

The free-T can be reduced by ~50% by many oral contraceptive pills and by administration of glucocorticoids. There has been little research in these areas that is helpful to clinicians.

The risks of T administration include those that are familiar, for example, greater sebum production, acne, loss of scalp hair, stimulation of facial and other body hair, as well as other potential risks including metabolic dysfunction in some women. This is based on the fact that although in the condition of polycystic ovarian syndrome, it

appears that hyperinsulinemia is usually the cause of the hyperandrogenism, there are some reports of situations in which hyperandrogenism causes insulin resistance. There is also a risk that other concerns will come to light if women are given testosterone when estrogen deficient, in view of the recent withdrawal of large numbers of women from estrogen therapy owing to the results of the women's health initiative study.

Management of low desire/interest

Psychological Treatments

Psychological therapy is the mainstay of the management of low sexual desire/ interest. Given the mandatory blending of mind and body, making deliberate changes in thoughts, attitudes behavior, leads not only to changed feelings and emotions but altered sexual physiology. Under the term "sex therapy" typically the woman's negative thoughts and attitudes to sex, her distractions during sexual stimulation, the need for more varied, more prolonged, or simply different sexual stimuli, the need for the couple to guide each other; and the usual needs of safety, privacy, and optimal timing of sexual interaction will be addressed. Sensate focus techniques whereby there is a graded transition from touching and caressing that is not specifically sexual to that which is sensual to that which is frankly sexual, may sometimes be included. The approach is one of systematic desensitization common to other behavioral therapies. Cognitive-behavioral therapy (CBT) focuses on the restructuring of myths or distorted thinking about sex. Couple therapy may be necessary focusing on interpersonal issues including trust, respect, as well as ways to relate to each other, which foster sexual attraction. Psychodynamic therapy is often recommended to address issues in the woman's past developmental period. Particular attention to family of origin and relationships to parental figures is often needed. A further component is that of systemic therapy/sexual differentiation, that is, the ability to balance desire for contact with the partner vs. desire for uniqueness as an individual. In directing the types of interventions, construction of the woman's sex response cycle will clarify the breaks or the sites of weakness. When emotional intimacy with the partner is minimal such that motivation and arousability are negatively affected, the couple is advised to receive relationship counseling before or

possibly instead of any sex therapy. When problems are due to lack of effective stimuli, contexts, negative thoughts, and attitudes about sex, or nonsexual distractions are present, a combination of CBT and sex therapy is usually given. Similarly, explanation, CBT, and sex therapy can be given when the main issue seems to be expectation of an inevitably negative outcome.

Recent studies have identified factors associated with better prognosis. Those factors include the overall quality of a couple's nonsexual relationship, the couple's motivation to enter treatment, the degree of physical attraction between the partners, an absence of major psychiatric disorder, attention to systemic issues in the relationship, the male partner's motivation to obtain a successful outcome to therapy, and the amount of sensate focus experiences the couple complete in their last week of therapy.

However, benefit from psychological treatment is to some degree unclear because the outcome measures used reflect male sexual desire but show a broad normative range across sexually healthy women. In addition, subjective arousal and excitement is rarely addressed despite the data confirming its major importance relative to genital congestion, and its close blending with desire.

Nonhormonal pharmacological treatment of low desire/interest

The place of pharmacological management for women's complaints of low desire/interest is undecided. This is because of broad normative range of women's appreciation of sexual desire, especially in the long-term relationship; and because of the importance of women's subjective arousal in influencing and triggering their desire and the minimal focus until now on the whole entity of subjective arousal. Thus, the appropriate outcome criteria for a "desire drug" are unclear. Studies with bupropion hydrochloride have suggested benefit over placebo. Of 30 women with active drug, 19 improved during a 12-week double blind placebo-controlled study for non-depressed women having a spectrum of sexual complaints, including low desire/interest. A more recent study, again of non-depressed women, this time diagnosed with hypoactive sexual desire, were treated in a single blinded manner and 29% responded to the active drug and none had responded to the initial 4-week placebo phase. The entity of sexual

interest as well as sexual desire was monitored and shown to improve. Despite these two studies, the clinical experience is of limited benefit from this intervention. Larger placebo-controlled randomized studies of bupropion or other molecules that alter the neurotransmitters known to influence desire and arousability, including dopamine, serotonin, and noradrenaline, are needed.

Hormonal Treatment

Testosterone

Long-term data for safety and benefit of testosterone therapy in women are lacking, but such data are required before long-term use of testosterone can be recommended. Similarly, safety data for the use of testosterone in nonestrogen replaced postmenopausal women are lacking and no recommendation for its use can be made currently. Nor can the supplementation of T to premenopausal women be recommended until such time there exist safety and efficacy data. Unfortunately, any enduring benefit after short-term treatment, although theoretically possible, is unproven. In addition, supplementing T on a temporary basis only, could have adverse effects on the couple if an improvement associated with T therapy is no longer apparent when it is withdrawn.

If despite the above, T supplementation is contemplated, careful assessment must establish absence of ongoing psychological (interpersonal, intrapersonal, contextual, and societal) and/or physical factors negatively affecting sexual interest and arousability. On the basis of available data, no specific testosterone regimen or dose can yet be recommended. The chosen formulation of testosterone must have pharmacokinetic data indicating that it produces blood levels within the normal premenopausal range. Achieving physiological free testosterone levels by transdermal delivery appears to be the best approach.

Contraindications to testosterone therapy include androgenic alopecia, seborrhea, or acne, hirsutism as well as a history of polycystic ovary syndrome, and estrogen depletion. Oral methyl testosterone therapy is contraindicated in women with hyperlipidemia or liver dysfunction. Regular follow up is both clinical – inspection of skin and hair for seborrhea, acne, hirsutism, and alopecia – and biochemical through

monitoring of free/bioavailable testosterone and SHBG, keeping these values within the normal range for premenopausal women. Of note, methyl-T is not included in the usual assays for T. Possibly, the target level for older women should be even lower but this remains unclear. Lipid profile and glucose tolerance are also monitored. The current recommendation is to prescribe only for 12 months owing to lack of long-term safety data.

Tibolone

Tibolone is a synthetic steroid with tissue selective estrogenic, progestogenic, and androgenic actions. In use in Europe for more than 10 years, tibolone provides some relief from vasomotor symptoms , estrogen agonist activity on the vagina and bone, but not on the endometrium . Tibilone was thought not to have estrogen agonist activity on breast tissue; but a recent, albeit nonrandomized but very large study of postmenopausal hormonal therapy showed a similar increase in breast cancer in women receiving tibolone and those receiving various combinations of estrogen and progestins. The typical (presumed beneficial) estrogenic effects on lipids are not seen, but it is of note that tibolone does not promote (unwanted) coagulation. Prospective randomized trials comparing tibolone to placebo or to various formulations of estrogen and progestin therapy have been done. In most, there was significant improvement in sexual desire/interest in the women receiving tibolone; no study focused on sexually dysfunctional women. Recruitment centered on vasomotor symptoms or bone density. Studies in postmenopausal women with loss of arousability and therefore of sexual interest are needed.

A biopsychosocial approach to therapy

There is a general expectation that modulation of the neurotransmitters involved in sexual arousability and desire from hormonal and nonhormonal therapy, will become available. As there are psychological and interpersonal sequelae of medical disruption of the sexual response, benefit beyond placebo may only beseen if a holistic biopsychosexual treatment approach is used. For instance, loss of arousability and

desire in breast cancer survivors is strongly linked to ovarian failure induced by chemotherapy. These women report that their former means of sexual stimulation to arousal are no longer effective. Couples describe how local (vaginal) nonsystemic estrogen can allow painless but rather perfunctory intercourse. Most need encouragement to bring back their former sexual contexts and stimuli that were discarded once they no longer worked. Usually, the partner needs to be heard regarding his/her feelings of rejection. Both partners need information on the role of ovarian hormones. Partial replacement of the woman's lost ovarian androgens, rarely helps on its own.

Recommendations for clinical practice are as follows:

- Assessment needs to be biopsychosocial, as well sexual.
- Consider predisposing, precipitating, and maintaining factors.
- Create a model of the woman's sexual response cycle showing the various breaks or areas of weakness.
- Interpersonal issues need to be addressed first.
- When abuse is elicited in the history, determine whether recovery has taken place. When this is not complete, defer addressing sexual issues and make appropriate referral.
- When negative outcome needs specific treatment (e.g., chronic dyspareunia), address that in parallel with addressing the low desire. Meanwhile, normalize and encourage nonpenetrative sex.
- Psychological therapies are the mainstay of treatment and include sex therapy, sensate focus therapy, CBT, psychodynamic treatment, couple treatment, and promotion of the individual as a separate self.
- There are no firm nonhormonal pharmacological recommendations at this time.
- When arousability and accessed desire sharply declines in conjunction with a known cause of reduction of androgens (e.g., younger premenopausal women with loss of all ovarian function), consider investigational testosterone therapy using a

formulation that produces physiological as opposed to pharmacological levels. Hopefully, there will be such formulation in the near future.

There are many reasons why women are sexual. A broad normative range in sexual desire exists between women and across life stages. The extreme importance of sexual arousability – used here to mean the factors influencing the mind's information processing of the sexual stimulation – direct assessment and management of distress resulting from disinterest in sex. The subject is larger and more complex than a "hypoactive sexual desire disorder". Desire, as in sexual thoughts and fantasies is helpful, but is neither sufficient nor essential for ongoing healthy sexual interest.

CONTROL QUESTIONS:

1. Describe the main factors that can lead to violations of sexual function in women.
2. What factors cause psychogenic inhibition of sexual manifestations in women?
3. Describe the reasons women initiate or accept sexual activity with their partners.
4. Describe the sexual arousablity factors.
5. Describe the primary and secondary sub-clinical manifestations of hypoactive sexual desire disorder.
6. What are the nonhormonal pharmacological treatment methods of low desire/interest?
7. Describe the role of androgens as biological basis of women's sexual desire and arousability.
8. What biopsychosocial approach to therapy can be used to treat hypoactive sexual desire disorder?
9. What is the hormonal pharmacological treatment of low desire/interest?

LESSON 6

FEMALE SEXUAL AROUSAL DISORDER

FEMALE ORGASM DYSFUNCTION

Duration of lesson: 2 academic hours.

The purpose of the activity: to study the etiology and pathogenesis of sexual dysfunction in women. To familiarize students with the female sexual arousal disorder.

To review psychotherapy, pharmacotherapy, and the biopsychosexual approach to the management of female sexual arousal disorder and female orgasm dysfunction

Place of employment: study room, computer room.

Equipment classes: tables, video.

FEMALE SEXUAL AROUSAL DISORDER

Clitoris and Surrounding Erectile Tissue

There is a considerable density of tactile receptors in the clitoris. The anterior vaginal wall is also rich in tactile receptors. Freud entertained a developmental idea about excitability to explain how “a little girl turns into a woman”. He argued that from the onset of puberty, libido increases in boys; at the same time, in girls, “a fresh wave of repression occurs that affects “clitoridal” sexuality”. This finite period of “anasthesia,” Freud thought, was necessary to enable successful transference of a girl’s erotogenic susceptibility to stimulation from the clitoris to the vaginal orifice. Even though his suggestion that there are also tactile receptors in the anterior vaginal wall is correct, there is no evidence that the anterior wall becomes excitable at the expense of clitoral sensitivity. Contrary to Freud’s belief, there is ample evidence that women who learned to know their own sexuality through masturbation are able to transfer this knowledge (or skill) to coital stimulation with a partner. For a long time, ideas similar to those of Freud have been used to suppress masturbation in girls and women. Even today there are many women with a partner, who feel guilty when masturbating.

The clitoris contains two stripes of erectile tissue (corpora cavernosum) that diverge into the crura inside the labia majora. On the basis of recent anatomical studies, O'Connell et al. proposed to rename these structures as bulbs of the clitoris. They found that there is erectile tissue connected to the clitoris and extending backwards, surrounding the perineal part of the urethra. However, most anatomical facts have been known for a long time. The clitoris parasympathethic innervation comes from lumbosacral segments L2 – S2, while its sympathetic supply is from the hypogastric superior plexus. The pudendal and hypogastric nerves serve its sensory innervation. It responds with increased blood flow and tumescence on being stimulated through sexual arousal. Nitric oxide synthase , among many other neuropeptides, has been identified in the complex network of nerves in the clitoral tissue.

The Anterior Vaginal Wall

When Masters and Johnson published their account of the physiology of the sexual response, they opposed Freuds theory of the transition of erogeneous zones in women. According to these famous sexologists, nerve endings in the vagina are extremely sparse. Therefore, during coital stimulation the clitoris is stimulated indirectly, possibly through the movement or friction of the labia. Almost all women who reached orgasm through stimulation from coitus alone had experienced orgasm through masturbation. Many women needed additional manual stimulation to orgasm during coitus, and an even larger number was unable to orgasm during coitus at all.

Apparently, coitus alone is not a very effective stimulus for orgasm in women. In 1950, Grafenberg provided an alternative to Masters and Johnson's explanation for the relative ineffectiveness of coitus to induce orgasm. He described an area of erectile tissue on the anterior wall of the vagina along the course of the urethra, about a third of the way in from the introitus and below the base of the bladder. Strong digital stimulation of this zone would activate a rapid and high level of sexual arousal which, if maintained, induced orgasm. This paper was ignored until 1982, at which time this area was renamed as the G-spot. According to Levin, however, there is no convincing scientific evidence for the presence of either a unique G-spot with its own plexus of

nerve fibers or for the fluid that is often expelled when orgasm is reached from stimulation of this area being anything other than urine. Because it is difficult to see how strong stimulation of this “G-spot would not also stimulate other erogeneous structures such as the urethra and clitoral tissue, Levin argues that the whole area should be regarded as the anterior wall erogeneous complex. Grafenberg pointed out that coitus in the so-called missionary position (ventral– ventral) prevents stimulation of the anterior vaginal wall and would therefore not be optimally sexually arousing for women. Instead, contact with the anterior wall is very close, when the inter course is performed more bestiarum or a la vache that is, a posteriori. Thus, Grafenberg`s suggestion was not that coitus itself is an ineffective sexual stimulus for women, but only coitus in the missionary position. Sensitivity of the entire vaginal wall has been explored in several studies.Weijmar Schultz et al. used an electrical stimulus for exploration under non- erotic conditions. This study confirms sensitivity of the anterior vaginal wall, even though sensitivity of this area was much lower than that of the clitoris.

Central Nervous System and Spinal Cord Pathways

Neural and spinal components of female sexual arousal anatomy have been examined in animals and spinal cord-injured (SCI) women only. There is strong evidence for the occurrence of sexual arousal and orgasm in women with SCI who have an intact S5 – S5 reflex arc. Not only were genital and extra- genital responses to vibrotactile stimulation similar between able-bodied and SCI subjects in a recent study of Sipski et al., subjective descriptions of sensations were indistinguishable between groups. SCI subjects did take longer than able-bodied subjects to achieve orgasm. Whipple and Komisaruk suggested that, on the basis of their studies in SCI women in whom cervical stimulation was applied, the vagus nerve conveys a sensory pathway from the cervix to the brain, bypassing the spinal cord, which is responsible for the preservation of sexual arousal and orgasm in these women.

There remain large gaps in our understanding of the central nervous control of female sexual function. Most of the animal work relates to receptive behavior in female

rats and very little to the control of genital responses. According to McKenna, the autonomic and somatic innervation of the genitals is based upon spinal mechanisms, modulated by supraspinal sites. Sensory information from the genitals project to interneurons in the lower spinal cord, which possibly generate the coordinated activity of sexual responses. The spinal reflex mechanisms are under inhibitory (through serotonergic activity) and excitatory (through adrenergic activity) control from supraspinal nuclei. These nuclei are highly interconnected. Many of them also receive genital sensory information. It is likely that during sexual activity, sensory activation of supraspinal sites causes a decrease in the inhibition, and an increase in the excitation of the spinal reflexive mechanisms by the supraspinal sites. Higher order sensory and cognitive processes may modulate the activity of supraspinal nuclei controlling sexual function.

Diagnosing FSAD

FSAD refers to inhibition of the vasocongestion-lubrication response to sexual stimulation. In the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), FSAD (302.72) is defined as the pervasive or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement, coupled with marked distress or interpersonal difficulty. The DSM classification of sexual disorders has been derived from phases of the sexual response cycle, on the basis of the work of Masters and Johnson. This model depicts a sexual desire phase and a subsequent sexual arousal phase, characterized by genital vasocongestion, followed by a plateau phase of higher arousal, resulting in orgasm and subsequent resolution. It is assumed in this model that women’s sexual response is similar to men’s, such that women’s sexual dysfunction in DSM-IV mirrors categories of men’s sexual dysfunction. In contrast to the third edition of the DSM manual, subjective sexual experience is no longer part of the definition, possibly in a further attempt to match norms and criteria for men’s and women’s sexual dysfunctions.

There are a number of serious problems with the current classification criteria. Firstly, although the DSM-IV explicitly requires the clinician to assess the adequacy of sexual stimulation only when considering the diagnosis of FOD, adequacy of sexual stimulation is a critical variable in evaluating each of the female sexual dysfunctions, and FSAD in particular. Exactly what is adequate sexual stimulation? Some sort of physical (genital) stimulation is a necessary, but not necessarily sufficient, prerequisite for arousal. For many women, adequate sexual arousal involves physical as well as "psychological" and "situational" stimulation, such as intimacy with a partner, the exchange of confidences, the sharing of hopes and dreams and fears, and not only directly prior to the sexual event. What if certain types of sexual stimulation have been adequate in the past, but not anymore? Is it evidence of FSAD, or could it be explained in terms of habituation or an adaptation to changing life circumstances? And what is meant by "completion of the sexual activity?" Is it masturbation to orgasm, sexual contact with a partner, sexual contact including coitus? These are very different activities that are known to differ in their sexually arousing qualities.

Secondly, the description of the first problem demonstrates that clinical judgments are required about sexual stimulation and the severity of the problem, the validity of which is questionable. The clinician has to evaluate what is normal, based on age, life circumstances, and sexual experience. Research on the basis of which clear criteria can be formulated, is lacking. There is a great variety in the ease with which women can become sexually aroused and which types of stimulation are required.

Thirdly, due to the lack of clear diagnostic criteria, it is often unclear in which cases an FSAD diagnosis or one of the other three main DSM-IV diagnoses is appropriate. The four primary DSM-IV diagnoses pertaining to lack of desire, arousal, orgasm problems or sexual pain, are not independent. Only very infrequently do women present with sexual arousal problems when seeking help for their sexual difficulties, but that does not mean that insufficient sexual arousal is an unimportant factor in the etiology of these difficulties. In actual clinical practice, classification is often done on the basis of the way in which complaints are presented. If the woman is complaining of lack of sexual desire, the diagnosis of hypoactive sexual desire disorder is easilygiven. If she

reports trouble reaching orgasm or cannot climax at all, FOD is the most likely diagnosis. If she reports pain during intercourse, or if penetration is difficult or impossible, the clinician may conclude that dyspareunia or vaginismus is the most accurate diagnostic label. In general, women have difficulty perceiving genital changes associated with sexual arousal. However, women who report little or no desire for sexual activity, lack of orgasm, or sexual pain, may in fact be insufficiently sexually aroused during sexual activity. It is particularly difficult to differentiate between FSAD and FOD. FOD is defined as the persistent or recurrent delay in, or absence of, orgasm following a normal sexual excitement phase. In cases where the clinician does not have access to a psychophysiological test in which a woman is presented with (visual and/or tactile) sexual stimuli, while genital responses are being measured, it cannot be established that her deficient orgasmic response occurs despite a normal sexual excitement phase, unless she reports feelings of sexual arousal. Ironically, this subjective criterion has been removed in the DSM-IV.

Studies investigating the efficacy of psychological treatments for sexual dysfunction have demonstrated that directed masturbation training combined with sensate focus techniques is very effective for women with primary anorgasmia to become orgasmic. In fact, this is the only psychological treatment of sexual dysfunctions that deserves the label “well established,” and is probably efficacious in secondary orgasmic disorder. The success of this treatment suggests that lack of adequate sexual stimulation is an important etiological factor underlying primary, and probably also secondary, anorgasmia.

Finally, there is a good deal of evidence that, especially for women, physiological response does not coincide with subjective experience. Women’s subjective experience of sexual arousal appears to be based more on their appraisal of the situation than on their bodily responses. We will address this issue extensively later in this chapter. Thus, in the DSM-IV definition of FSAD, probably the most important aspect of women’s experience of sexual arousal is neglected, given that absent or impaired genital responsiveness to sexual stimuli is the sole diagnostic criterion for an FSAD diagnosis.

It is clear that the sexual stimuli used in this laboratory study (even though these stimuli were merely visual) were effective in evoking genital response. In an ecologically more valid environment (e.g., at home), sexual stimuli may not always be present or effective. Sexual stimulation must have been effective at one point in the participants' lives, because primary anorgasmia was an exclusion criterion. Even though a serious attempt was made to rule out lack of adequate sexual stimulation as a factor explaining the sexual arousal problems, data on sexual responsiveness collected in the anamnestic interview suggested that the women diagnosed with sexual arousal disorder are unable, in their present situation, to provide themselves with adequate sexual stimulation. The exclusion, halfway through the study, of a participant who no longer met the criteria for sexual arousal disorder after having met a new sexual partner, also illustrates that inadequate sexual stimulation may be one of the most important reasons for sexual arousal problems.

In this study, genital responses did not differ between the groups with and without sexual arousal disorder, but sexual feelings and affect did. The women with FSAD reported weaker feelings of sexual arousal, weaker genital sensations, weaker sensuous feelings and positive affect, and stronger negative affect in response to sexual stimulation than the women without sexual problems. Two explanations may account for this. Firstly, women with sexual arousal disorder may differ from women without sexual problems in their appreciation of sexual stimuli. These stimuli, even though they were effective in generating genital response, evoked feelings of anxiety, disgust, and worry. These negative feelings may have downplayed reports of sexual feelings, and were probably evoked by the sexual stimuli and not by the participants becoming aware of their genital response, because reports of genital response were unrelated to actual genital response. Negative appreciation of sexual stimuli may extend to, and perhaps even be amplified in, real-life sexual situations, because in such situations, any negative affect (i.e., towards the partner or the sexual interaction) may be more salient. Negative affect may, therefore, be partly responsible for the sexual arousal problems in the women diagnosed with sexual arousal disorder.

Secondly, women with sexual arousal disorder may be less aware of their own genital changes, with which they lack adequate proprioceptive feedback that may further increase their arousal. The general absence of meaningful correlations between VPA and sexual feelings in this and other studies (see next section) supports this notion. Perhaps women with sexual arousal disorder have less intense feedback from the genitals to the brain; there are no data, at present, to substantiate this idea. It is impossible to decide which of these explanations is more likely, because in real-life situations it can never be established with certainty that sexual stimulation is adequate, and awareness of genital response is dependent upon the intensity of the sexual stimulation. In addition, these explanations are not mutually exclusive. We can conclude, however, that the sexual problems of the women with sexual arousal disorder are not related to their potential to become genitally aroused. We propose that in healthy women with sexual arousal disorder, lack of adequate sexual stimulation, with or without concurrent negative affect, underlies the sexual arousal problems.

Organic etiology may underlie sexual disorders in women with a medical condition. There are only a handful of studies that have employed VPA measurements in women with a medical condition. The only psychophysiological study to date that found a significant effect of sildenafil on VPA in women with sexual arousal disorder was done in women with SCI, suggesting that in this group there was an impaired genital response that can be improved with sildenafil. Another study compared genital response during visual sexual stimulation of women with diabetes mellitus and healthy women, showing that VPA was significantly lower in the first group. A very recent study measured VPA in medically healthy women, in women who had undergone a simple hysterectomy, and in women with a history of radical hysterectomy for cervical cancer . Only in the last group was VPA during visual sexual stimuli impaired, whereas the women with simple hysterectomies reported to experience more sexual problems than the other two groups. Not presence of sexual arousal problems but presence of a medical condition that influences sexual response may therefore be the most important determinant of impaired genital responsiveness.

Medical conditions that have been associated with sexual arousal disorder, other than SCI and diabetes, are pelvic and breast cancer, multiple sclerosis, brain injury, and cardiac disease. Mental disorders such as depression may also interfere with sexual function. It is important to consider the direct biological influence of disease on sexual pathways and function, but equally important is the impact of the experience of illness. Disease may change body presentation and body esteem; ideal sexual scenarios may be disturbed by constraints that accom- pany illness. In many patients, sexual arousal and desire may decrease in connec- tion with grief about the loss of normal health and uncertainty about illness outcome . Damage to the autonomic pelvic nerves, which are not always easily identified in surgery to the rectum, uterus, or vagina, is associated with sexual dysfunction in women. Medications such as antihypertensives, selective serotonine reuptake inhibitors, and benzodiazepines, as well as chemo- therapy, most likely due to chemotherapy-induced ovarian failure, impair sexual response. In addition, the incidence of women complaining of lack of sexual arousal increases in the years around the natural menopausal transition. According to Park et al., postmenopausal women with sexual complaints, who are not on estrogen replacement therapy, are particularly vulnerable to what they call a vasculogenic sexual dysfunction. However, psychophysiological and preliminary functional magnetic resonance imaging studies of increases in genital congestion in response to erotic stimulation, fail to identify differences between pre- and postmenopausal women. This would suggest that although urogenital aging results in changes in anatomy and physiology of the genitals, postmenopausal women preserve their genital responsiveness when sufficiently sexually stimulated. The vaginal dryness and dyspareunia experienced by some postmenopausal women may result from longstanding lack of sexual arousal/protection from pain previously afforded by estrogen related relatively high blood flow in the unaroused state.

Diagnostic Procedures

An ideal protocol for the assessment of FSAD should be constructed following theoretical and factual knowledge of the physiological, psychophysiological, and

psychological mechanisms involved. The protocol then describes the most parsimonious route from presentation of complaints to effective therapy. Unfortunately, we are at present far from a consensus on the most probable causes of FSAD. Despite this disagreement, at least two diagnostic procedures should be considered. Firstly, assessment of sexual dysfunction in a biopsychosocial context should start with a verification of the chief complaints in a clinical inter- view. The aim of the clinical interview is to gather information concerning current sexual functioning, onset of the sexual complaint, the context in which the difficulties occur, and psychological issues that may serve as etiological or maintaining factors for the sexual problems, such as depression, anxiety, personality factors, negative self- and body image, and feelings of shame or guilt that may result from religious taboos. Sexual problems are common complications of anxiety disorders and impaired sexual desire, arousal and satisfaction. Labora- tory studies suggest potential enhancement of genital arousal by some types of anxiety, but the precise cognitive, affective, or physiological processes by which anxiety and women's sexual function are related have as yet to be identified. The ongoing work of Bancroft and Janssen exploring a dual control model of sexual excitation and inhibition in men as well as in women, may clarify any role of anxiety in women's predisposition to sexual inhibition and to sexual excitement. One of the most important but difficult tasks is to assess whether inadequate sexual stimulation is underlying the sexual problems, which requires detailed probing of (variety in) sexual activities, conditions under which sexual activity takes place, prior sexual functioning, and sexual and emotional feelings for the partner. Several studies have shown that negative sexual and emotional feelings for the partner are among the best predictors for sexual problems. The clinician should always ask if the woman has ever experienced sexual abuse, as this may seriously affect sexual functioning. Some women do not feel sufficiently safe during the initial interview to reveal such experiences; nevertheless, it is necessary to inquire about sexual abuse to make clear that traumatic sexual experiences can be discussed. The initial clinical interview should help the clinician in formulating the problem and in deciding what treatment is indicated. An important issue is the agreement between therapist and patient about the formulation of the problem and

the nature of the treatment. To reach a decision to accept treatment, the patient needs to be properly informed about what the diagnosis and the treatment involve.

TREATMENT

Psychological Treatments

Currently, we are in a climate that overlooks and dismisses psychological treatments. One of the reasons for this may be that due to sociocultural pressure in the medical and larger culture, physiological treatments are seen as superior. The emphasis on impaired genital unresponsiveness in the DSM-IV and the success of pharmacological treatments for men's erectile dysfunction have undoubtedly contributed as well.

Prior to publication of Masters and Johnson's seminal book on sex therapy, sexual problems were seen as consequences of (nonsexual) psychological conflicts, immaturity, and relational conflicts. Masters and Johnson proposed to directly attempt to reverse the sexual dysfunction by a kind of graded practice and focus on sexual feelings (sensate focus). If sexual arousal depends directly on sexual stimulation, that very stimulation should be the topic of discussion (masturbation training). A sexual dysfunction was no longer something pertaining to the individual, rather, it was regarded as a dysfunction of the couple. It was assumed that the couple did not communicate in a way that allowed sexual arousal to occur when they intended to "produce" it. Treatment goals were associated with the couple concept: the treatment goal was for orgasm through coital stimulation. This connection between treatment format and goals was lost once Masters and Johnson's concept was used in common therapeutic practice. People came in for treatment as individuals. Intercourse frequency became the gold- standard indicator of sexual function. Male orgasm through coitus adequately fulfills reproductive goals, but it is not very satisfactory for many women because they do not easily reach orgasm through coitus. What has remained over the years since 1970 is a direct focus on dysfunctional sex and a focus on sexual sensations and feelings as a vehicle for reversal of the dysfunction.

Psychological treatment of sexual arousal problems generally consists of sensate focus excercises and masturbation training, with the emphasis on becom- ing more self-focussed and assertive. A lack of meaningful treatment goals for women, the difficulty in obtaining adequate control groups, and a lack of clear treatment protocols, may explain the paucity of well-controlled randomized trials of psychological therapy

Pharmacotherapy

In the relatively short time span, compared to psychologic treatments, that pharmacological treatments have become available for men, since 1998, the effect of pharmacological treatments in women with sexual arousal problems has been investigated in several controlled and uncontrolled studies. To date, none of the treatments listed here have been approved.

Phosphodiesterase Inhibitors

Sildenafil is the first pharmacological treatment that has been investigated on a reasonable scale in controlled studies with female subjects. In the very first laboratory study, 12 healthy premenopausal women without sexual dysfunction were randomized to receive a single oral 50 mg dose of sildenafil or matching placebo in the first session and alternate medication in a second session. Although sildenafil was found effective in enhancing vaginal engorgement (VPA) during erotic stimulus conditions, these changes were not associated with an effect on subjective sexual arousal.). Women identified as having DSM-IV arousal disorder without concomitant hypoactive sexual desire disorder did show benefit of sildenafil beyond placebo. Also, an Italian study found improvement on subjective sexual arousal, pleasure, orgasm, and even on frequency of orgasm, in premenopausal women with sexual arousal complaints, although these results were obtained with unvalidated questionnaires. The beneficial effects of sildenafil over placebo were most evident in the strongest stimulus condition of both visual and manual stimulation. Several, yet unpublished, controlled studies in women with FSAD found no improvement of sildenafil.

These conflicting findings have probably led to Pfizer's recent decision to end their program of testing efficacy of sildenafil in women. It would be theoretically and clinically meaningful to investigate which factors may have been responsible for these inconsistent findings. Possible candidates are: inadequate sexual stimulation (sildenafil will not be effective without sexual stimulation); inadequate outcome measures; wrong patient group (e.g., women with sexual problems unrelated to genital responsiveness); estrogen depletion. In most studies, women with a medical condition were excluded from the trials. This may have been an unfortunate choice. Women with various medical conditions may have an impaired genital response and may therefore have more to gain from a genital arousal enhancing agent such as sildenafil than medically healthy women.

Prostaglandines

One placebo-controlled, single-blind, dose response study has been published investigating the effect of a local application of alprostadil in women with arousal difficulties. No significant differences with placebo were found. A comparison of the lowest with the highest dose did show some effects in the expected direction, but these effects were estimated by visual inspection by an MD. It is unknown whether that MD was also blinded to treatment. Apparently a larger, as yet unpublished study, in postmenopausal women did find significant improvement over placebo on genital sensation, subjective sexual arousal, and sexual satisfaction.

Dopamine Agonists

Dopaminergic drugs might be interesting because unlike the previously discussed drugs, they have a direct effect on the brain and may therefore have a positive influence on sexual arousal and desire. The only controlled study published to date found an enhancing effect of levodopa on an index of somatic motor preparation, the Achilles tendon reflex, in men, but not in women. Sumanirole is a dopamine agonist that specifically targets D2-receptors. We investigated the effect of this drug in women with

complaints of sexual arousal and desire in a placebo-controlled laboratory study, but found no effects on genital or subjective sexual arousal.

Androgens

Several companies have begun to study the effects of various androgen products and androgen– estrogen combinations. The relationship between declining andro- gens and sexual response has not been clarified. Sexual problems related to androgen deficiency are to be expected only when there is a real deficiency of biologically available testosterone.

FEMALE ORGASM DYSFUNCTION

It is generally accepted that female orgasms are not essential for reproduction, and any benefit that they may have for female biology is, as yet, unclear. Early theorists believed that orgasm via intercourse activated ovulation and closed off the womb to air, thus facilitating conception. When it was later shown that the human female was a spontaneous ovulatory at mid-cycle, and that this was unconnected to coitus, the discourse re-focused on the role of uterine suction created by orgasmic contractions in moving ejaculated spermatozoa through the cervix into the uterus and then fallopian tubes. However, there is now good evidence that the fastest transport of spermatozoa into the human uterus is actually in the sexually unstimulated condition.

An essential feature of sexual arousal of the female genitalia is to create the expansion of the vagina (vaginal tenting) and elevation of the uterus cervix from the posterior vaginal wall. This reduces the possibility of the rapid entry of ejaculated spermatozoa into the uterus and gives time for the initiation of the decoagulation of semen and the capacitation of the spermatozoa to begin, decreasing the chance of incompetent sperm being transported too rapidly into the fallopian tubes. By dissipating arousal and initiating the resolution of the tenting, orgasm may allow the earlier entry of the spermatozoa into the cervical canal and their subsequent rapid transport to the fallopian tubes.

It has been suggested that women may use orgasm, initiated either from coitus or masturbation, as a way to manipulate the ejaculate in the vagina. This highly contentious concept is based on the amount of flowback (semen/fluid) lost from the vagina. The claim is that the amount of flowback containing spermatozoa varies with the precise timing of the woman's orgasm in relation to the time of deposition of the ejaculate into the vagina. Low sperm retention is thought to be associated with female orgasms that occur less than 1 min before vaginal deposition while maximum retention is thought to occur with orgasms occurring shortly after deposition. If orgasm occurs earlier than 1 min before the ejaculate, deposition sperm retention is the same as when there is no orgasm. According to Baker and Bellis the effect of orgasm on sperm retention lasts only for the period of 1 min before semen deposition and up to 45 min later.

An additional function of women's orgasm, which may play a role in the reproductive process, is that if the woman attains orgasm during coitus, the associated contractions of the vagina can facilitate male ejaculation. This would allow the woman to capture the sperm of her chosen inseminator. In addition, as noted earlier, orgasm increases the secretion of prolactin. If prolactin in plasma is able to enter into the vaginal, cervical or uterine fluids, it may influence the entry of calcium into the sperm and this action could play a role in the activation of spermatozoa in the female tract.

Psychosocial factors related to women's orgasm

Age, education, social class, religion, personality, and relationship issues are the psychosocial factors most commonly discussed in relation to female orgasmic ability. It was found only the youngest group of women (18 – 24 years) showed rates of orgasm lower than the older groups for both orgasm with a partner and orgasm during masturbation. This is likely to be attributable to age differences in sexual experience. There was no significant relation between education level and orgasmic ability with a partner, but substantial differences between education level and ability to attain orgasm during masturbation. Approximately 87% of women with an advanced degree reported "always or "usually" attaining orgasm during masturbation compared with 42% of

women with a high school education. The authors explained this finding as the better educated women having more liberal views on sexuality and being more likely to consider pleasure a major goal of sexual activity.

Research based on individuals presenting for sex therapy generally finds a negative relation between high religiosity and orgasmic ability in women. Sexual guilt is often used to explain this relation; the more religious a person, the more likely they are to experience guilt during sexual activity. Guilt could feasibly impair orgasm via a variety of cognitive mechanisms, in particular, distraction processes. A relation between improved orgasmic ability and decreased sexual guilt has also been reported). Laumann et al. reported a substantially higher proportion of women with no religious affiliation reported being orgasmic during masturbation compared with religious groups. Counterintuitive to these relations, women without religious affiliation were much less likely to report always having an orgasm with their primary partner than were religious women. The authors cautioned making assumptions based on these statistics given that there were substantial differences in education levels between religious categories.

In an extensive investigation of background and personality variables and women's orgasm, Fisher found few significant associations, the most notable of which concerned the quality of the father/daughter relationship. Low orgasmic experience was consistently related to childhood loss or separation from the father, fathers who had been emotionally unavailable, or fathers with whom the women did not have a positive childhood relationship. Fisher explained this finding in terms of high arousal, presumably necessary for orgasm, creates a more vulnerable emotional state that is threatening to these women who are especially concerned with object loss. There has been no follow-up research on this finding. There have been no other personality or background variables consistently associated with orgasmic ability in women. A relation between childhood sexual abuse and various sexual difficulties has been reported, but reports of an association between early abuse and anorgasmia are inconsistent.

Relationship factors such as marital satisfaction, marital adjustment, happiness, and stability have been related to orgasm consistency, quality, and satisfaction in

women. These findings are correlational in nature. Clearly, a satisfying marital relationship is not necessary for orgasm, particularly given rates of orgasm consistency in women are higher during masturbation than with a partner. A satisfying marital relationship most likely promotes orgasmic function via increased communication regarding sexually pleasurable activity, decreased anxiety, and enhancement of the subjective and emotional qualities of orgasm.

Definition of female orgasmic disorder

On the basis of findings from the National Social and Health Life Survey conducted in the early 1990s, orgasmic problems are the second most frequently reported sexual problems in women. The DSM-IV-TR defines female orgasmic disorder (302.73) using the following diagnostic criteria:

1.Persistent or recurrent delay in, or absence of, orgasm following a normal sexual excitement phase. Women exhibit wide variability in the type or intensity of stimulation that triggers orgasm. The diagnosis of female orgasmic disorder should be based on the clinician's judgment that the woman's orgasmic capacity is less than would be reasonable for her age, sexual experience, and the adequacy of sexual stimulation she receives.

2.The disturbance causes marked distress or interpersonal difficulty.

3.The orgasmic dysfunction is not better accounted for by another Axis I disorder (except another sexual dysfunction) and is not due exclusively to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition. Female orgasmic disorder is further subtyped as lifelong vs. acquired, and generalized vs. situational.

Most studies examining orgasmic dysfunction in women refer to orgasm problems as either "primary orgasmic dysfunction" or "secondary orgasmic dysfunction". In general, the term primary orgasmic dysfunction is used to describe women who report never having experienced orgasm under any circumstances, including masturbation. According to the DSM-IV-TR, this would refer to those women who meet criteria for

lifelong and generalized anorgasmia. Secondary orgasmic dysfunction relates to women who meet criteria for situational and/or acquired lack of orgasm. By definition, this encompasses a heterogeneous group of women with orgasm difficulties. It could, for example, include women who were once orgasmic but are now so only infrequently, women who are able to obtain orgasm only in certain contexts, with certain types of sexual activity, or with certain partners. Regarding women who can obtain orgasm during inter- course with manual stimulation but not intercourse alone, the clinical consensus is that she would not meet criteria for clinical diagnosis unless she is distressed by the frequency of her sexual response.

TREATMENT OF FEMALE ORGASMIC DISORDER

Female orgasmic disorder has been treated from psychoanalytic, cognitive-behavioral, pharmacological, and systems theory perspectives (69). Because substantial empirical outcome research is available only for cognitive-behavioral and, to a lesser degree, pharmacological approaches, only these two methods of treatment will be reviewed here.

Cognitive-Behavioral Approaches

Cognitive-behavioral therapy for female orgasmic disorder aims at promoting changes in attitudes and sexually relevant thoughts, decreasing anxiety, and increasing orgasmic ability and satisfaction. Traditionally, the behavioral exercises used to induce these changes include directed masturbation, sensate focus, and systematic desensitization. Sex education, communication skills training, and Kegel exercises are also often included in cognitive-behavioral treatment programs for anorgasmia.

Directed Masturbation

Masturbation exercises are believed to benefit women with orgasm difficulties for a number of reasons. To the extent that focusing on nonsexual cues can impede sexual performance, masturbation exercises can help the woman to direct her attention to sexually pleasurable physical sensations. Because masturbation can be performed alone, any anxiety that may be associated with partner evaluation is necessarily eliminated. Relatedly, the amount and intensity of sexual stimulation is directly under the woman’s

control and therefore the woman is not reliant upon her partners knowledge or her ability to communicate her needs to her partner. Research that shows a relation between masturbation and orgasmic ability provides empirical support for this treatment approach. Kinsey et al. reported that the average woman reached orgasm 95% of the time she engaged in masturbation compared with 73% during intercourse. More recently, in a random probability sample of 682 women, Laumann reported a strong relation between frequency of masturbation and orgasmic ability during masturbation. Sixty-seven percent of women who masturbated one to six times a year reported orgasm during masturbation compared with 81% of women who masturbated once a week or more.

The first step of DM involves having the woman visually examine her nude body with the help of a mirror and diagrams of female genital anatomy. During the next stage she is instructed to explore her genitals tactually as well as visually with an emphasis on locating sensitive areas that produce feelings of pleasure. Once pleasure-producing areas are located, the woman is instructed to concentrate on manual stimulation of these areas and to increase the intensity and duration until“something happens” or until discomfort arises. The use of topical lubricants, vibrators, and erotic videotapes are often incorporated into the exercises. Once the woman is able to attain orgasm alone, her partner is usually included in the sessions in order to desensitize her to displaying arousal and orgasm in his presence, and to educate the partner on how to provide her with effective stimulation.

DM has been used to effectively treat female orgasmic disorder in a variety of treatment modalities including group, individual, couples therapy, and bibliotherapy. A number of outcome studies and case series report DM is highly successful for treating primary anorgasmia.

The benefits of this technique are due to the fact that clitoral contact, and possibly paraurethral, stimulation are maximized. In summary, DM has been shown to be an empirically valid, efficacious treatment for women diagnosed with primary anorgasmia. For women with secondary anorgasmia, who are averse to touching their genitals, DM may be beneficial. If, however, the woman is able to attain orgasm alone through

masturbation but not with her partner, issues relating to communication, anxiety reduction, trust, and ensuring the woman is receiving adequate stimulation either via direct manual stimulation or engaging in intercourse using positions designed to maximize clitoral stimulation (i.e., coital alignment technique) may prove more beneficial.

Anxiety Reduction Techniques

Anxiety could feasibly impair orgasmic function in women via several cognitive processes. Anxiety can serve as a distraction that disrupts the processing of erotic cues by causing the woman to focus instead on performance related concerns, embarrassment, and/or guilt. It can lead the woman to engage in self-monitoring during sexual activity, an experience Masters and Johnson referred to as spectatoring. Physiologically, for many years it was assumed that the increased sympathetic activation that accompanies an anxiety state may impair sexual arousal necessary for orgasm via inhibition of parasympathetic nervous system activity.Other authors, however, have noted that activation of the sympathetic nervous system, induced via means such as 20 min of intense stationary cycling or running on a treadmill actually facilitates genital engorgement under conditions of erotic stimulation.

The most notable anxiety reduction techniques for treating female orgasmic disorder are systematic desensitization and sensate focus. The process involves training the woman to relax the muscles of her body through a sequence of exercises. Next, a hierarchy of anxiety-evoking stimuli or situations is composed and the woman is trained to imagine the situations while remaining relaxed. Once the woman is able to imagine all the items in the hierarchy without experiencing anxiety, she is instructed to engage in the activities in real life. Sensate focus was originally conceived by Masters and Johnson. It involves a step-by-step sequence of body touching exercises, moving from nonsexual to increasingly sexual touching of one another’s body. Components specific for treating anorgasmic women often include nondemand genital touching by the partner, female guidance of genital manual, and penile stimulation and coital positions designed to maximize pleasurable stimulation. Sensate focus is primarily a couple’s

skills learning approach designed to increase communication and awareness of sexually sensitive areas between partners. Conceptually, however, the removal of goal-focused orgasm, which can cause performance concerns, the hierarchical nature of the touching exercises, and the instruction not to advance to the next phase before feeling relaxed about the current one, suggest sensate focus is also largely an anxiety reduction technique and could be considered a modified form of in vivo desensitization.

The success of using anxiety reduction techniques for treating female orgasmic disorder is difficult to assess because most studies have used some combination of anxiety reduction, sexual techniques training, sex education, communication training, bibliotherapy, and Kegel exercises, and have not systematically evaluated the independent contributions to treatment outcome. Moreover, even within specific treatment modalities, considerable variation between studies exists. For example, systematic desensitization has been conducted both in vivo and imaginal, has used mainly progressive muscle relaxation but also drugs and hypnotic techniques to induce relaxation, and has varied somewhat in the hierarchical construction of events. Furthermore, the relative contribution of factors such as individual vs. group treatment, patient demo- graphics (age, marital status, education, religion), precise diagnosis and severity of presenting sexual concerns, therapist characteristics (sex, theoretical orientation and training), treatment settings (private, hospital, university clinics), and length of treatment sessions and duration are often reported but systematic evaluation of many of these factors is missing from the literature. Finally, of the controlled studies that have included anxiety reduction techniques, few have differentiated between treatment outcomes for primary and secondary anorgasmic women. Across studies, women have reported decreases in sexual anxiety and, occasionally, increases in frequency of sexual intercourse and sexual satisfaction with systematic desensitization, but substantial improvements in orgasmic ability have not been noted. Similarly, of the few controlled studies that have included sensate focus as a treatment component, none have reported notable increases in orgasmic ability. These findings suggest that, in most cases, anxiety does not appear to play a causal role in female orgasmic disorder and

anxiety reduction techniques are best suited for anorgasmic women only when sexual anxiety is coexistant.

Other Behavioral Techniques

As noted earlier, many treatment outcome studies for anorgasmia include a variety of treatment components, and the relevant individual contributions they make to treatment outcome success cannot be effectively evaluated. With this in mind, a number of additional treatment techniques warrant mention. Since Masters and Johnson's pioneering work, sex education has been a component of many sex therapy programs. Ignorance about female anatomy and/ or techniques for maximizing pleasurable sensations can certainly contribute to orgasm difficulties.

Treatment comparison studies have generally found no differences in orgasmic ability between women whose therapy included using Kegel exercises versus those whose therapy did not. To the extent that Kegel exercise may enhance arousal and/or help the woman become more aware and comfortable with her genitals, these exercises may enhance orgasm ability. In summary, sex education, communication skills training, and Kegel exercises may serve as benefical adjuncts to therapy. Used alone, they do not appear highly effective for treating either primary or secondary anorgasmia.

Pharmacological Approaches

Of the few placebo-controlled studies examining the effectiveness of pharmacological agents for treating female orgasmic disorder, most examine the efficacy of agents for treating antidepressant-induced anorgasmia. Whether pharmacological agents would have the same treatment outcome effect on non-drug- vs. drug- induced anorgasmia is not known.

It cannot be determined from the report how many women would meet a clinical diagnosis for anorgasmia. As noted earlier, there is a high incidence of adverse sexual side effects noted with antidepressant treatment. A number of pharmacological agents have been prescribed along with the antidepressant medication in an effort to help counter these effects. Some such drugs include antiserotonergic agents such as

cyproheptadine, buspirone, mirtazapine, and granisetron; dopaminergic agents, such as amantadine, dextroamphetamine, bupropion, methylphenidate, and pemoline; adrenergic agents such as yohimbine and ephedrine; cholinergic agents such as bethanechol; and the selective cyclic-GMP catabolism inhibitor sildenafil. A number of case reports and open-label studies report success in alleviating SSRI-induced anorgasmia with some of these agents. Findings from the few placebo-controlled studies published are less optimistic. Michelson et al. examined the comparative effects of 8 weeks of treatment with buspirone, amantadine, or placebo on fluoxetine-induced sexual dysfunction in premenopausal women reporting either impaired orgasm or sexual arousal. The authors reported all groups experienced an improvement in orgasm during treatment, but neither buspirone nor amantadine was more effective than placebo in restoring orgasmic function. It should be noted, however, that the doses of buspirone (20 mg/day) and amantadine (50 mg/day) administered were very low. At a higher dose level (mean daily dose ¼ 47 mg), buspirone showed a marginally significant alleviation of sexual side effects in women taking either citalopram or paroxetine compared with placebo. The authors did not distinguish between orgasm and desire disorders in either the classification of patients or treatment outcome. In a randomized, double-blind, parallel, placebo- controlled study of mirtazapine (15 mg/day), yohimbine (5.4 mg/day), olanzapine (0.25 mg/day), or placebo for fluoxetine-induced sexual dysfunction. Kang et al. (94) reported no significant effect of Gingko biloba beyond placebo in a small group of women with SSRI-induced sexual dysfunction. Meston reported no significant effect of ephedrine (50 mg, 1 h prior to intercourse) beyond placebo on orgasmic function in 19 women with sexual side effects secondary to fluoxetine, sertraline, or paroxetine treatment. The study was conducted using a randomized, double-blind, placebo-controlled, cross-over design. In summary, to date there are no pharmacological agents proven to be beneficial beyond placebo in enhancing orgasmic function in women.

Therefore, DM is an empirically valid and efficacious treatment for lifelong female orgasmic disorder. To date, there are no empirically validated treatments for acquired female orgasmic disorder. Anxiety reduction techniques such as sensate focus and

systematic desensitization have not been shown to be efficacious for treating either lifelong or acquired female orgasmic disorder. Anxiety reduction techniques may serve as beneficial adjuncts to therapy if the woman is experiencing a high level of anxiety. There is no direct empirical evidence to suggest that sex education, communication skills training, or Kegel exercises alone are effective for treating either lifelong or acquired female orgasmic disorder. Of the few studies examining the effects of pharmacological agents for female orgasmic disorder, none have been shown to be more effective than placebo. Placebo-controlled research is essential to examine the effectiveness of agents with demonstrated success in case series or open-label trials (i.e., sildenafil, testosterone) on orgasmic function in women.

CONTROL QUESTIONS

1.What are the main anatomical structures responsible for the occurrence of female sexual arousal disorder?

2. Describe the role of central nervous system and spinal in the occurrence of orgasm.

3. Please list the diagnostic procedures for female sexual arousal disorder.

4. Describe the role of psychological treatment.

5. Please describe effectiveness of phosphodiesterase inhibitors in treatment of female sexual arousal disorder.

6.What are the main approaches to the treatment of female orgasmic disorder?

7. The role of cognitive-behavioral approaches in treatment of female orgasmic disorder.

8. Describe the main pharmacological approaches for treatment of female orgasmic disorder.

LESSON 7

SEXUAL DYSFUNCTION IN MEN

Duration of lesson: 2 academic hours.

The purpose of the activity: to study the etiology and pathogenesis of sexual dysfunction in men. To familiarize students with the male sexual desire dysfunction, failure of genital response, male orgasmic dysfunction, premature ejaculation and painful intercourse.

To review psychotherapy, pharmacotherapy, and other methods of management of male sexual dysfunctions.

Place of employment: study room, computer room.

Equipment classes: tables, video.

The most common male sexual disorders are erectile dysfunction (30-40%), ejaculative dysfunction (25-40%), hypoactive sexual desire (15-16%) (I.S. Kon, 2004).

Sexual desire dysfunction

Hypererotizm (hypersexuality, erotomania, satiriazis, elevated libido – F52.7) - pathological increase of sexual needs, leading to increased sexual activity. Thus there is both a quantitative increase in the number of sexual contacts, and a qualitative change in sexual behavior, as sexuality becomes a major life goal of the individual. For such individuals frequent changes of sexual partners are specific. Thus, usually sexual relations are not long-term. This pathology may develop as a result of psychogenic influences (e.g., as a form of compensation in inferiority complex) and by the symptom of organic or psychiatric disorders (e.g. tumors of the central nervous system, bipolar disorder or hormonal disorders) (Z.Starowicz, 1991). It should be noted that the determination of the grade of sexual desire is quite arbitrary. It depends, in particular, from traditional norms adopted in aanalyzed society, and the person’s age. Thus, increased libido usually occurs in adolescence and is not pathological. Therefore, variations in the severity of sexual desire can be regarded as pathological only on the

condition that their assessment is determined by the whole complex of personal characteristics and social role of man. K.Imelinsky (1986) noted that the persons leading an intense sexual life and with it, showing a high different activity (professional, social, creative, and others) cannot be considered as people with abnormal enhancement of sexual desire, because intensity of sexual desire in this case is a manifestation of a high level of general life energy. In contrast, the strengthening of sexual desire in those cases where even intense and varied sex life does not allow a person to pay attention to the other sides, making it socially little value, can be regarded pathological. The neurotic background of erotomania can be explained in cases where sexual activity is the only source of enrichment for the individual, despite the possibility of the development of other spheres of life. Personal basis is implied when a person is not able to achieve success in other areas of life, and sexual activity represents only form of achievements of the individual. This is a consequence of violations of personal development, social expression of which is the general depletion of the individual. In addition, neurotic based erotomania may on the background of feelings of inferiority, lack of confidence in own sexual opportunities, leads to the necessity of continuous monitoring, verification and proof of patient's sexual opportunities. This leads to overcompensation of own weakness. Hypercompensatory mechanisms may be so strong that they cause constant desire to prove their sexual consistency even in cases where the intensity of sexual desire is correct or maybe even slightly decreased. In this case, sexual activity has a non-sexual motivation. These motivations are attributed, in particular, to legendary tempter Don Juan, who always had sexual relations with women, to make sure that his sexual performance have not changed (I.S.Kon, 2004). Erotomania may be situational. It can occur in people who are unable to properly satisfy their sexual needs (prisoners, sailors, long voyagers) in the absence of the partners of the oppositesex. In this case, the forced abstinence can sometimes cause the state of expression of sexual arousal, which is often removed by means of masturbation (K.Imelinsky, 1986). Hypersexuality entails a chronic shortfall in biological pleasures that can be replaced by alcoholism, use of psychoactive substances. This is even more

disinhibit dissatisfaction with development of dangerous sexual and antisocial behavior (G.B.Deriagin et al., 2003).

Hyposexuality, hypolibidemia (lack or loss of sexual desire – F52.0) - lowering of sexual needs and sexual activity. Decreased or absent sexual desire may be functional in nature (for example, as a result of disappointment in the constant sexual partner), developed on the organic background (for example, drug abuse, hyperprolactinemia, hypoglycemia, etc.) or be symptomatic manifestation of various mental diseases (neurotic disorders, bipolar disorder, and others.). It should be noted that this type of disorder (especially its extreme form - frigidity) is more common in women.

However, lack of or reduced sexual desire does not exclude sexual satisfaction or arousal, but makes sexual activity less possible (ICD-10, 1999).

Failure of genital response

Erectile dysfunction (failure of genital response – F52.2,impotence of organic origin – N48.8).

Criteria of erectile dysfunction in men DSM-IV (H.Kaplan, B.Sadock, 1999):

A. Stable or recurrent inability to attain or maintain an sufficient erection as long as there is a complete sexual intercourse;

B. The disorder causes significant distress or difficulty in relations between partners;

C. Erectile dysfunction does not meet the criteria of another disorder (except another sexual dysfunction) and may not be entirely explained by the direct action of psychoactive substances (for example, drug abuse) or physical illness.

Erectile dysfunction is the most commonly encountered in clinical practice pathology, as it is the most basic, the most vulnerable and persistent phenomenon of male sexuality. According to Z.Starowicz (2000), about 50% of men experienced certain difficulties with erection, but the organic basis can be detected only in 15% of cases. According to American researchers (H.Kaplan, B.Sadock, 1999)in the United States about 2 million of men suffer from impotence due to diabetes, 300 thousands– due to other diseases of the endocrine system, 1,5 million – due to cardiovascular

system diseases, 180 thousands– due to multiple sclerosis, 400 thousands– due to injuries and fractures, 650 thousands – as a result of a various surgical procedures. The main factors associated with various diseases of internal organs, which can lead to erectile dysfunction include: diabetes, cardiovascular disorders, hormonal insufficiency (G.Ter-Avanesov, 2002).

According to the intercourse phases (excitement, plateau, orgasm, discharge), the erectile dysfunction –is a violation of the first phase. Erectile disorders occur in the absence or insufficiency of increasing o fswelling of the penis, which causes difficulties during sexual intercourse. Failure often manifests itself in the prelude to coitus or deteriorates before the penis insertion.

It should be noted that some failure (lack of erection or her loss at the wrong time) can be quite normal. Furthermore, erectile function tends to weaken with age. It is believed that the secondary impotence can be speaked on only if erection problems in men occur in at least 25% of attempts to perform sexual intercourse (W.Masters, V.Johnson, R.Kolodny, 1998). Individual episodes are not the evidence of sexual weakness; they may be the result of physical stress (fatigue, excessive amounts eaten, alcohol use), or some psychological factors (tension, lack of privacy or the need to get used to a new partner).

By the time of occurrence relatively to sexual life erectile dysfunctions are divided into primary (existing from the beginning of sexual activity) and secondary (occur after a period of normal sexual life). Secondary disorders occur about 10 times more often than primary (W. Masters, V.Johnson, R. Kolodny, 1998). In relation to the circumstances of the sexual act there can be generalized disorders (erection is violated in any circumstances and for any partner) and selective (erection is violated in a particular situation or a particular partner). According to the causes erectile dysfunctions are divided into functional and organic.

Organic causes include: (S.Kratochvil, 1991)

• abnormalities or diseases of the genitals – hypoplasias of penis, plastic induration of the penis, hypospadias, penile injury, phimosis, inflammation, causing pain during erection (balanitis, urethritis, prostatitis), etc.;

• neurological disorders – damage to the central nervous system (especially in the lumbar-sacral regions of the spinal cord), multiple sclerosis, syringomyelia, amyelotrophy etc.;

• atherosclerotic changes in vessels of the penis, their stenosis and hypoplasia, etc;

• endocrine disorders – diabetes, hyperprolactinemia, etc;

• toxic effects – alcohol dependence, psychopharmacological drugs abuse and others.

Functional disorders have no organic nature.The essential role in their development belongs to psychogenic and constitutional factors. Fear of possible failure usually leads to inhibition of sexual arousal and loss of erection. The greater the fear, the greater the likelihood that it will come true. Fear of failure often turns a man into an observer who watches him sexual response. Distracted by the monitoring and evaluation of what is happening, the man usually gets less pleasure from sexual activity, which further inhibits his ability to sexual response. This form the so called“vicious circle”: weak erection leads to the fear of failure, thatmotivates a man to become an observer, and it’s distracting him and promotes deepening violations of erection. Reaction of the partner can be realized in two scenarios. In one woman can blame herself, believing that she is not sufficiently experienced or attractive for men; at another –- completely shifts the “blame” for a partner, believing that he has extramarital affairs, suspecting him of homosexuality or that “he just does not like me”. If a man, instead ofquietly referring to such incidents begins to experience a frustration, thinking about how to achieve an erection for the next time, it may be a prerequisite for the deep violations in future (W. Masters, V.Johnson, C. Kolodny , 1998).

Features, which distinguish organic changes from functional are as follows (S.Kratochvil, 1991; A.L.Verstkin, 2003):

• presence of erection during sleep, during the phase of rapid eye movement in the early morning hours;

• presence of erection during masturbation;

• the occurrence of an erection during tactile stimulation in prelude or under circumstances that exclude the possibility of sexual intercourse;

• the occurrence of erectile dysfunction only with certain partners(type of partners), or in certain situations.

Erectile dysfunction often have a negative impact on the emotionally sphere of males, has significant frustrating effects and can lead to conflicts, neuroticism, reactive depressive disorders, lowering of self-esteem, and in advanced cases – to suicidal behavior (R.C.Rosen et al., 2004).

Erectile dysfunction should be distinguished from predisfunctional syndrome described by K.Imelinskiy that consists in the fact of the absence of any failures in the sexual life;gradually appears uncertainty in success of future coitus. On the background of an excessive focus on the sexual sphere, attempts to permanent self-control a fear of sexuality, sexual intercourse itself, members of the opposite sexcan develop. Fear of loss of sexual partner, shame in front of him, a sense of guiltappears. It should be noted that this syndrome can occur in women too.

Priapism is a long persistent painful penile erection unrelated to sexual arousal and does not disappear after sexual intercourse. Unlike a normal erection, priapism is characterized by full erection of corpora cavernosum, but the spongy body of the penis does not swell.

Two basic mechanisms of development of priapism are described: (G.S.Vasilchenko, 1990):

• priapism with reduced blood flow (venous, low-flow) –characteristirized by difficulties of venous outflow, sharp blood stasis, reducing blood flow and marked tissue ischemia;

• priapism with increased blood flow (arterial, high-flow) - venous outflow higher than normal, but not enough to compensate for the increased arterial inflow.

Medicinal and toxic effects on neurovascular mechanisms are also capable of causing long lasting erections by increasing blood flow in the cavernous bodies. When the priapism duration is long, it causes irreversible ischemia of endothelium and fibrosis of cavernous bodies. Attempts to eliminate priapism through multiple sex intercourses

are unsufficient, as sexual intercourse is not accompanied by ejaculation and orgasm, satisfaction is absent, the erection doesn't disappear.

There are the following factors that contribute to the development of priapism (I.I.Mavrov, 2002):

• neurogenic (multiple sclerosis; amyelotrophy, encephalitis, meningitiset al.);

• toxic (including drugs);

• trauma (injury of the penis and scrotum);

• hematologic (sickle cell anemia);

• inflammation (prostatitis, appendicitis, pelvic vein thrombophlebitis, typhoid, syphilis, tularemia, and others);

• tumors (especially of the spinal cord).

When the cause of priapism can not be established, it is classified as primary or idiopathic.

Orgasmic dysfunction

Disorders of orgasm (orgasmic dysfunction - F52.3)

It should be noted that normally the male orgasm is closely associated with ejaculation, so the disorder also includes the absence of ejaculation. This disorder is characterized by the absence or marked delay of orgasm (ejaculation) at usually good erection and adequate stimulation. Total (absolute) absence of ejaculation and the absence of ejaculation during intercourse (relative anejaculation) should be distinguished. In the first case, ejaculation cannot be caused by any means and in the second case ejaculation can be reached by masturbation, but not during coitus. (S.Kratochvil,1991). With age there is a decrease in some men in need for ejaculation, as evidenced by a significant increase in the number of frictions.

Z. Starowicz (2002) identifies the following types of abnormal ejaculation:

• too premature ejaculation– ejaculation occurs prior to sexual intercourse during the prelude in the absence of an erection of the penis;

• premature ejaculation - ejaculation occurs immediately before the insertion of the penis into the vagina;

• early ejaculation - ejaculation occurs either directly at the time of insertion of the penis into the vagina, or after the first frictions;

• delayed ejaculation - ejaculation occurs only after longterm, sometimes exhausting sexual intercourse;

• spermatorrhoea - flowing of sperm occurs outside the context of sexual arousal and intercourse situation;

• painful ejaculation;

• ejaculation without orgasm;

• retrograde ejaculation– ejaculation occurs, but sperm is ejected in the opposite direction into the bladder.

Organic disorders infrequently cause orgasmical disorders. Among them the injuries of the nerve centers (and nerve pathways of the spinal cord, center of ejaculation, IV lumbar sympathetic ganglion), a violation of tactile sensitivity of the penis, the blockade by chemicals and drugs (barbiturates, alcohol, opiates, etc.) can be marked. Psychogenic causes may are disharmony in relationships with a partner, with orgasmic disorders occuring in certain situations (G.S.Vasilchenko,1990). Delayed ejaculation is more common than its absence. However, some men find it to their advantage, as it allows them to maintain an erection for a long time, and thus prolong sexual intercourse. Despite the fact that it is often welcomed by female partners, they may take opinion that ejaculation does not occur due to unpleasantness of them to their partners. In addition, overduration of sexual intercourse can cause pain in both partners, and for couples wishing to have children, lack of ejaculation becomes a real problem (W.Masters, V.Johnson, R.Kolodny, 1998).

It should be noted that the degree of erotic emotions can vary even in normal conditions. A woman can cause vivid erotic emotion or depress them. Erotically attractive women for this male partner can cause very intensive erotic arousal. A woman, who does not cause desire and behaving cold or having an apparent reluctance during sexual intercourse, depress sexual emotions in men. Reducing the brightness of erotic emotions until the lack of orgasm can occur in situations in which the erotic emotions are accompanied by negative experiences. The same effect has distraction that

may be associated with the need to use an interrupted sexual intercourse, with the fear that the relationships that violate moral norms, will be denounced. The physical pain experienced during sexual intercourse also provides inhibitory effect on the erotic experience; however, in patients with masochistic tendencies, it can enhance sexual pleasure (W.Masters, V.Johnson, R.Kolodny, 1998). If for a considerable time, despite the external sexual stimulation, orgasm does not occur, the syndrome called "prostatism" can develop (K.Imelinsky, 1986). This syndrome develops mainly in men aged 20-30 years who don't have regular sexual partner and are leading irregular sexual life with the elevated libido. At this disorder increased arousal, dull pain in the perineum, the sacrum and hips, testicles, frequent urination are usually seen. Accompanying of erection and ejaculation disorders can develop.

*Premature ejaculation (F52.4) i*s defined as the inability to control ejaculation to the extent that is sufficient to both partners were satisfied with sexual intercourse (ICD-10). It may also be caused by psychogenic and organic factors (diseases of male genital organs - N40 - N51, organic brain damage - F06.82x). The main causes of premature ejaculation are (S.Kratochvil, 1991):

• low frequency of intercourse, which leads to excessive willingness to sexual discharge;

• anxiety and fear during sexual intercourse;

• habit of rapid onset of ejaculation;

• organic factors, increased tactile sensitivity of penis, prostate disease;

• constitutional factors (low threshold of ejaculatory reflex).

Depending on these criteria from 21 to 40% of men suffer from this nosology (E.Astbury-Ward, 2002).

As stated above, it is necessary to distinguish between absolute (F52.41) and relative (F52.42) form of premature ejaculation. In the first case the duration of intercourse is less than one minute (less than 20frictions) during the regular sexual life, in the second - the duration of intercourse is within the physiological range (1 to 3 minutes). However, this duration is not enough to get orgasmic discharge by partner

(ICD-10). According to the W.Masters, V. Johnson, C. Kolodny (1998), the division of premature ejaculation on the absolute and relative time of sexual intercourse leads to the fact that some men were trying to make self-diagnosis literally “stopwatch in hand”, which itself made them frustrated because this behavior usually accelerates ejaculation. In this regard, the division of premature ejaculation time is debatable. Premature ejaculation can be absolutely not a problem for man, but it can be a source of significant stress for him and for his partner. Reaction of partner in the same way as for erectile dysfunction may occur in two directions. She can be sensitive to the problem, and may react negatively, considering that “he just uses her” or “he thinks only of himself”. Also, it should be mentioned that a reduction in the time prior of ejaculation is possible in men with prolonged abstinence or only in extramarital affairs.

Painful intercourse (dyspareunia)

Typically, painful intercourse is considered the “prerogative” of women. However, the disorder in men is possible when various diseases of external and internal genital organs (inflammation of the prepuce, urethritis, prostatitis and others) are present. Sometimes the pain can be caused by the tip of an intrauterine device that is “scratchy” during frictions or under the influence of condom lubricant components (W.Masters, V. Johnson, R.Kolodny, 1998).

CONTROL QUESTIONS

1. Describe the most common male sexual disorders.
2. Please give the definition of hypersexuality.
3. What are the main reasons of hyposexuality?
4. Give the definition of spermatorrhoea.
5. List main nosologies of failure of genital response.
6. What are the types of abnormal ejaculation?
7. Describe the difference between absolute and relative premature ejaculation.
8. What are the main causes of premature ejaculation?
9. What are the main reasons for dyspareunia in men?

LESSON 8

SEXUAL DEVIATIONS. CRIMINAL SEXOLOGY

Duration of lesson: 2 academic hours.

The purpose of the activity: to provide students with a systematic analysis of structure and semiology of sexual deviations; define the role of criminal psychology in the structure of interdisciplinary knowledge.

Place of employment: training room, a computer room.

Equipment classes: tables, training literature, videos.

Before proceeding to describe this type of disorders, it is necessary to explain the concepts of perversion and deviation. The term deviation (deviant behavior) is a broader concept and implies a deviation from accepted norms and standards (legal, moral or social), which leads to social desadaptation. Deviance is defined as compliance or noncompliance of behavior to social norms (expectations) that may be controversial (even murder is not absolutely negative – in war time it is permissible and sometimes even encouraged). Manifestations of deviant behavior may relate not only to human sexuality.

Sexual deviations (from lat. *deviare* - to go astray; synonyms - paraphilia, sexual paresthesias, perversitety) refer to different forms of variation from the standards within a given cultural forms of sexual behavior not related to disease. The term “perversion”is more “narrow” and refers to the fixed persistent sexual behavior associated with distortion in the choice of a sexual object or method of sexual satisfaction (Sexology: Encyclopedic Reference Book, 1993). Before our days, the concept of “sexual perversion” was applied to any deviation (A.V.Snezhnevsky, 1983). Thus they were considered as diseases and, moreover, were generally regarded as undesirable in terms of morality. Subsequently, it was found that a group of sexual deviancy is not homogeneous and divides into a large group of sexual deviations that have no nature of disease, and a much smaller group of pathological sexual deviations with progressive

or impulsive type of flow. Not all perversions obligatory lead to sexual offenses. Such forms such as homosexuality (if it is not associated with pedophilia), fetishism, narcissism are not unlawful. However, violations of sexual desire by age (pedophilia, ephebophilia) and the form of realization (exhibitionism, incest, frotterizm) are punishable forms of sexual behavior (V.V.Krishtal et al., 2002).

Public attitudes towards various forms of sexual behavior changes in different cultural and historical epochs. In the Middle Ages many forms of sexual behavior didn't considered as deviations and even been encouraged; then, they have been recognized by the Christian Church as the "diabolical intrigues". Subsequently, the tolerance of society towards deviations increased, but until now different attitudes toward sexual deviancy from ridicule to criminal penalties are observed (K.Imelinsky, 1986).

Many theories tried to explain causes of sexual deviations (congenital disorders, endocrine and organic disorders, etc.), but none of them fully coped so far with this task. In practice, most of the deviations are caused by a combination of different factors (disontogenetic concept by G.S.Vasilchenko, 1983). It is important to differentiate sexual perversion and sexual sophistication. For example, oral-genital contact, if it is used in the process of foreplay and acceptable by both partners, can be regarded as a variant of the norm. The same effect, but causing discomfort or inappropriate for one of the partners, can be regarded as a deviation Finally, the same steps are used as a means of moral humiliation and causing physical suffering to a partner (if it does not please him), may be regarded as sexual perversion of sadomasochism type (Sexology: Encyclopedic Reference Book, 1993; A.Tkachenko, 1997). H.Burger-Prinz et al. (1976) suggested the scale of deviation gravity, based on the difficulty of establishing and developing interpersonal relationships. This scale starts from "partner - object" (fetishism), followed by "anonymous partner" (exhibitionism, voyeurism, frottazh), "same-sex partner" (homosexuality, masturbation, narcissism, transvestism), "immature partner" (pedophilia, gerontophilia), heterosexuality. Various conditions may contribute to developmental delay at any level.

Criteria of paraphilias (by DSM-IV-TR):

A. The existence for at least 6 months of periodically repetitive, intense, sexually arousing fantasies, sexual impulses, or behaviors.

B. Fantasies, sexual impulses, or behaviors cause clinically significant distress or impairment in social, occupational or other important areas of functioning.

It should be noted that the realization of their differences in sexual behavior and feelings can lead to internal conflict, the strength of which depends on the attitude of the society to a particular type of deviation.

In practice, the definition of sexual perversion is based on the finding of a dominant in the form of stereotyped forms of sexual behavior, which is accompanied by the so-called leading symptoms, allocated by H.Giese (1962):

• exposure to sensuality. Human with perversion loses independence from sensory impressions;

• an increase in the frequency and weakening of the sense of satisfaction. Experiencing sexual satisfaction becomes fragmented and limited to short-term sense of detente, which in its own turn become increasingly weak and disappointing. Thus, a desire for sexual satisfaction appears faster and faster;

• manifestation of promiscuity and anonymous sexual contacts.

In the context of perverse sexuality deep partnerships are not formed, there is no permanent choice of a partner and a constant search for the desired carrier of stimulus or preferred behavior, that is any adequate partner with similar stimulus. In this case, the identity of the partner usually stays anonymous;

• development of fantasy. The more sexual activities deviate from the norm, the more the fantasy is involved;

• experience, that assume the character of a painful habit.

There is a certain similarity between sexual perversion and painful habits and predilections, which lead to social desadaptation, isolation, and in extreme cases – to bareness of a person;

• periodical rise of sexual anxiety.

Unlike animals human sexuality is not subject of the periodic enhancement of sexual desire. However perverse impulses arise periodically, and may appear in the intervals of normal sexual behavior. At the same time there is a feeling of anxiety, which constantly encourages for the search for stimuli and incentives of a sexual nature. In this concern anxiety may be stronger than any social conventions.

Pathological forms of sexual deviations can be divided into the following groups (K.Imelinsky, 1986):

- with progressive course;
- with impulsive sexual behavior.

Progressive forms (sexual perversions)

It should be mentioned, that these forms are characterized by increasing complexity of characteristics of perversion. In a certain period of life, there is a perversion itself, and it takes irresistible character. It is not integrated with the person, does not meet the lifestyle, it is impossible to suppress or control it. It grows, fills all emotions in such extent that deviants are no longer able to resist this kind of sexuality, and are not able to decide freely and is totally influenced by the necessity to satisfy the deviant needs through appropriate actions. In this aspect specific sensory stimuli acquire the character of incentives, which cannot be resisted (e.g., the voice of a child for pedophilic deviants). Deviant sexual acts frequency begins to increase while reducing the level of sexual satisfaction. Growing number of promiscucious and anonymous sexual contacts, development of deviant content fantasies, the sophistication of sexual activity progresses. Lack of satisfaction due to intrapsychic conflict within the framework of deviant sexual acts contributes to the progressive course of sexual perversions. Instead of feeling of satisfaction after the deviant act helplessness and disgust occurs. Thus, the sense of intimacy and orgasm satisfaction usually do not come as a feeling of guilt cannot get over the maximum pleasure. Thus, deviant sexual intercourse is characterized by the inability to deliver the full enjoyment and emotional pleasure. One of the reinforcing mechanisms of progressive course of sexual perversions, is a kind of need for punishment. Deviant steps evoke a sense of guilt,

which in turn causes the need to punish yourself. A deviant act becomes a form of a punishment, which again reinforces the feeling of guilt, which again stimulates new deviant actions. Deviant activity can mutate during its evolution. Due to this, the latent forms of deviation are revealed, which up to this point have been hidden. For example, exhibitionism can progress into transvestism and transsexualism.

Impulsive forms

Impulsive forms arise from intrapsychic struggle of person with sexual deviation by its suppression (displacement). Despite this repression, from time to time deviant actions may be performed. However, there is no state of emotional stress, intrapsychic conflicts, as well as anxiety and compulsions that are typical to progressive course, since the deviation is displaced. Deviant actions usually occur suddenly, under the influence of some extraneous factors (increased emotional stress, acute conflicts, drunkenness). Such temporary “flash” can be impulsive, but not necessarily once. After committing deviant sexual intercourse, it appears very difficult to reconcile with what had happened, deviant does not accept it and cannot fully comprehend. Impulsive manifestations of deviation for such a person are alien and incomprehensible because in his mind, he does not allow such type of behavior. The main feature that distinguishes this form of deviations from the progressive forms, is the lack of previous struggle, conflict and resistance to overcome deviation. Thus, impulsive sexual activities are temporary, occurring in a particular situation flares of deviant needs, other times completely repressed, unacceptable in the minds of the deviants, and not even noticed by them.

Blight authors identify several other important forms of deviations. So, V.V.Krishtal et al. (2002) highlights:

• progressive type, which is characterized by structural complexity in time of psychopathological picture, including new components, growth of the force of attraction;

• stationary type – with no change, internal conflict and long stage of unrealized deviation;

• regressive type – that is determined by a gradual simplification and improvement of perversion picture.

The same authors distinguish the following variants of the course of perversion:

• impulsive - with the gradual accumulation of personality asthenizing factors (infectious diseases, fatigue, psychogenic), lack of awareness and sudden occur, without a struggle based on sexual attraction and forgetting of excess;

• compulsive – characterized by awareness of the deviation, which is the only way to realize sexual desire;

• intrusive– with prolonged existence of perverse desire without its realization, and the conflict between it and moral and ethical guidelines of human.

It should be noted that the deviation and perversion are extremely variable and cad can be combined.

Gender identity disorders (F64)

Transsexualism (F64.0) is a sense of belonging to the opposite sex. The desire to live and be accepted as a person of the opposite sex, continuing for at least two years, usually combined with a sense of inadequacy or discomfort from their anatomical sex, or the desire to receive hormonal or surgical treatment in order to make the body as much as possible corresponding to the chosen sex. As noted by K. Imelinsky (1986): "A person with transsexualism feels men, prisoners in a woman's body and vice versa."

In the domestic sexopathology there is a division of transsexualism on nuclear and edge variants. The first variant is essentially independent from the effects of the microenvironment and without sex change adaptation can not be reached. The second variant has soft flow and both externally compensated and socially adapted, despite the continuing feeling of belonging to the opposite sex.

Data on the prevalence of this disorder are contradictory. The ratio of transsexuals who wish to change male to female (M-to-F), and those who want to change the female to male (F-to-M) in western countries is 2:1, in countries of former USSR the ratio is reversed (I.S.Kon, 2004). Most transsexuals do not suffer from mental disorders, and a timely diagnosis and treatment (sex change) bring them relief.

As a rule, the disorder make one's debut in childhood (and always before the onset of puberty), and expressed by strong concernment by clothing and/or occupations typical for the opposite sex. This disorder should not be confused with nonconformism in relation to the standard sexual behavior. Typically, the disorder manifests before the onset of puberty. A characteristic feature is the fact that children with disorders of sexual identification deny any emotions about it. Usually, from pre-school age and later, boys and girls are passionate about games and other forms of activities traditionally considered inherent to the opposite sex. Often they can prefer clothes of the opposite sex. However, this does not cause sexual arousal, unlike fetishistic transvestism in adults. Boys may have a very strong desire to participate in games and entertainment between girls; female dolls are often their favorite toys, as partners for the games they always choose the girls. Frankly feminine behavior may decrease during adolescence, but follow-up studies show that in adolescence and later in boys with gender identity disorder in 1/3 - 2/3 of the cases homosexual orientation manifested. In clinical practice, gender identity disorder in girls is less common. They also have a preference for games and toys, typical to the opposite sex. Girls are not normally go through so strong ironies as boys, but they may suffer from it in some grade. Most of them refuse exaggerated insistence on male activities and clothing towards adolescence, but some may preserve male identification and manifest homosexual tendencies. Sometimes the disorder can be combined with the constant rejection of anatomical structures specific to the sex. In girls, it can manifest itself in the form of assertions that they have the penis, the reluctance to have breasts, beginning of menstruations or unwillingness to urinate in a sitting position. The boys insist, that when they grow up, they become the woman; that the penis and testes are disgusting, they will disappear (ICD-10, 1999).

Transsexualism differs from *cross-dressing* (transrole behaviour) (F64.1), which is manifested in wearing clothes of opposite sex as a way of life in order to get pleasure from the temporary-feeling of belonging to the opposite sex. However, these actions are not accompanied by the desire to more permanent sex change or surgical correction, associated with it. Dressing up in this disorder is not accompanied by excitation, which distinguishes it from fetishistic transvestism (ICD-10, 1999).

Fetishism (F 65.0) is the use of an inanimate object (fetish) as a stimulus for sexual arousal and sexual satisfaction (ICD-10, 1999). In the majority of cases it occur in men, although there are also controversies to that data. Some fetishes are additions to the human body (clothing, shoes, etc.), Others are characterized by a special material (rubber, latex, plastic, leather, etc.). Fetishes can be used to enhance sexual arousal (dressing partner in certain clothes). It should be noted that fetishism can be diagnosed only if the fetish is the most significant source of sexual arousal or absolutely necessary for satisfaction of sexual desire. In other words, if the character is transformed into a fetish, it acquires an independent existence. Fetishistic fantasies are quite common. However, they are not considered a disorder until them don't lead to the ritual actions that are so insurmountable and unacceptable that interfere with sexual intercourse and cause suffering to the partner or the individual himself.

Fetishistic transvestism (F65.1) involves putting on clothes of the opposite sex to achieve sexual arousal (ICD-10, 1999). Unlike simple fetishism, fetish worn or used to make the appearance of the subject-like appearance, typical of the opposite sex. Therefore it is usually put on not one, but a whole set of clothes. This type of disorder is different from transsexual transvestism that is clearly associated with sexual arousal and the presence of a strong desire to take your clothes off after reaching orgasm and reduce sexual arousal. Fetishistic transvestism is generally regarded as the early phase of the development of transsexualism.

Exhibitionism (F65.2) – intermittent or constant tendency to demonstrate the own genitals to strangers (usually of the opposite sex) or in public places without a proposal or intention to closer contact. Typically, during a demonstration there is a sexual arousal, accompanied by masturbation. Varieties of this type of sexual disorders are exhibitionism of sadistic type (maximal satisfaction is obtained by a fear or frightening the victim), masochistic type (maximal pleasure is obtained by the aggressive reaction of the victim) (ICD-10, 1999). Externally exhibitionism looks scary and aggressive, and falls under the heading of "indecent assault". However, the majority of exhibitionists rather timid shy, afraid of women; because this disorder – is a typical neurotic syndrome (I.S.Kon, 2004).

Voyeurism (F65.3) – recurring or persistent tendency to watch people having sex or undressing. It usually leads to excitation, accompanied by masturbation and is carried out in secret from the observed person. It should be noted that the elements of voyeurism may be observed, for example, in boys during puberty, then they pass. Some researchers believe that addiction to voyeurism can then be transformed and acquire "cultivated" forms.

Pedophilia (F65.4) – sexual preference of prepubertal or early pubertal children. Some pedophiles are attracted only by girls, the other - by boys, and others - are bisexual in this sense. Pedophilia is more common in men and can be combined with a certain type of fetishism (preference of boy or girl in some clothes, for example, in school uniform, socks of certain color, tied with ribbons, etc.). It should be mentioned that such contacts are socially disapproved, especially if they are of one sex, but they are not necessarily linked to pedophilia. In some cases, especially if the causer of the contacts is adolescent, there is no evidence of permanent or dominant tendencies necessary for diagnosis. However, the number of pedophiles including men who prefer adult sexual partners, but because of the constant frustrations when establishing the appropriate contacts, habitually return to children as a replacement. Behavior is defined as pedophilia also in cases when men sexually infringe his own prepubertal children (ICD-10, 1999). Currently remains debatable whether pedophilia is a mental disorder (N.P.Solovyova, 2003).

Sadomasochism (F65.5) – preference for sexual activity, including the infliction of pain or humiliation. If a person prefers to experience pain or humiliation, this is called masochism, if prefers to cause pain or humiliation - sadism. It is possible the mixing of these variants. Talking about sadomasochism is possible only in cases where the sadomasochistic activity is the most significant source of sexual stimulation or absolutely necessary for sexual pleasure, as weak manifestations of sadomasochistic stimulation can be applied to enhance normal sexual activity (ICD-10, 1999). It is often difficult to distinguish sadomasochism from cruelty and anger observed in sexual situations. In this case, cruelty and anger are associated with sexual feeling, while sadomasochism is necessary for erotic arousal.

Psychological and behavioral disorders associated with sexual (psychosexual) development and sexual orientation (F66)

Homosexuality (homosexual type - F66.x0) is a sexual deviation, characterizing sexual attraction to persons of the same sex. In different countries there are different slang names for homosexuals (e.g. “blue”, gays - in relation to male homosexuals). From the middle of the XIX century, the term homosexuality is used to refer to sexual activity, sexual relations (not just sexual attraction) between persons of the same sex.

The prevalence of homosexuality, according to different authors, varies from 1 to 4%, in women - from 1 to 3%. According to A. Kinsey, prepubescent homosexual games have been observed in 52% of boys and 35% girls. At least one contact during the life of a person with the same sex name had 48% of men (37% of cases ended with an orgasm) and 28% of women (13% of them experienced an orgasm at the same time).

The etiology and pathogenesis of homosexuality is completely unknown. According to the neuroendocrine theory homosexuality is predetermined disorders of sexual differentiation of the brain in the prenatal period. J. Dorner et al. (1972) in feminized male homosexuals identified the type of reaction to the introduction of the female estrogen treatment. The similar phenomenon was not observed in the control group. This indicates a defective brain masculinization in homosexual men and homosexual partial masculinization of women. Therefore differentiation of the brain is responsible for the distortion of the sensitivity of the hypothalamus to hormonal influences. At the same time, prenatal pathology entails endocrine disorders with sexual dysfunctions. Research has revealed in homosexuals elevated estradiol and testosterone-binding globulin, and decreased concentrations of free testosterone in the blood compared to the control group, with the major changes recorded in the balance between testosterone and estrogen. Thus, endocrine and neuroendocrine theories complement each other. The adverse impacts of microsocial environment play significant role in development of homosexual orientation. In this regard, important is the impact of upbringing in the opposite field. But also suggestion by parents and teachers a dislike attitude toward the opposite sex can be equally strong pathogenic factor contributing to

the formation of homosexual attraction. Such education particularly affects women. Attempts of mother to prevent early seduction of daughter and to convince her that all men are rascals and scoundrels often form a negative attitude to men, which can interfere with the formation of heterosexual attraction and communication with peers. In such cases, long-term psychotherapeutic work with a patient with a gradual introduction to the range of kind and gentle boys or men and full insulation from women can give strong positive result. Young age and easeness of reaching orgasm makes it possible to switch on heterosexual sex drive. At the same time, Freud argued that same-sex love is inherent in all people, that every man by nature is bisexual, and the ratio of hetero- and homoerotic component is determined only in the process of individual development.

Traditionally, sexual orientation is divided into three components: heterosexuality, bisexuality and g homosexuality. However, between these two extremes, there are many manifestations of the transition states. Therefore, the “lattice” sexual orientations by A.Klein are presented in seven parameters: sexual attraction, sexual behavior, sexual fantasies, emotional preferences, social preferences, lifestyle, self-identity.

Clinical manifestations of homosexuality are quite diverse. Homosexuality is formed on the background of the transformation of gender roles in conjunction with premature psychosexual development, touches the core of the personality, early attention is drawn to violations of sex-role behavior; it persists throughout life and can be corrected. Such patients usually do not go to the sexopathologist. They are mainly socially adapted, do not try to fight the perversion. Their partners-homosexuals play a role of the opposite sex. Men willingly take care of all of the house, enjoy cooking and fulfill other purely “female” duties, suchwise the role played by the wife of a homosexual couple. Sometimes their behavior becomes exaggerated, hyperfeminine, they apply makeup and dress up in clothes of the opposite sex (homosexual transvestism), reflecting the transformation of gender roles. As partners they choose those with pronounced masculine or even hypermasculinity behavior. The relationship between the partners is not distinguishable from true love with all its attributes (devotion, jealousy, and so on).

Cases of formation of homosexuality against the backdrop of early psychosexual development without transforming gender roles are less noticeable, as sex-role behavior of such persons conforms to generally accepted standards of microsocial environment and distortion of sexual desire is usually carefully hidden by them. In these cases hyperrole behavior is often found.

Sometimes, as a partial solution to the conflict between sexual desire and the negative attitude towards him vicarious forms of sexual activity are practiced. Homosexual men are frequent visitors of the public baths, where they can find the object for real sex, and for the surrogate forms of sexual relations (scopophilia, mutual massage, etc.). Substitution form of homosexual activity is superficial petting. When homosexuality is formed on the background of retardation of psychosexual development in conjunction with the transformation of gender roles, the clinical picture is not as sharp as in premature formation of sexuality. Often there are cases of homosexual contacts along with heterosexual sex. But over time, one of the affections begins to predominate and the other disappears.

Attempts to treat patients who hide their homosexual tendencies and other sexual perversions, usually unsuccessful, as the treatment is inadequate.

Transient vicarious form of homosexuality occur when it is impossible to adequately implement the heterosexual libido (e.g., insulation in same-sex teams, etc.) and with symptoms of pathological hypersexuality as a result of expanding the range of attraction. They are usually transient, and if possible, heterosexual sexual activity is resumed. Homosexuality, like other perversions, can be combined with other sexual perversions, which makes clinical manifestations polymorphic.

COERCION AND VIOLENCE IN SEXUAL RELATIONS. SEXUAL CRIMES

One of the main causes of sexual coercion and violence is aggression. It is believed that men have a higher aggressiveness than women. Some authors attribute this to the peculiarities of the hormonal system of men (A.P.Chuprikov, B.M.Tsupryk, 2000), while others explain the higher level of aggressiveness of male specificity towards the process of socialization, which includes “training aggressiveness” (R.Blackburn,2004).

Furthermore, aggression is strongly associated with heredity. Thus, the total aggression higher in those male animals and those men whose fathers were aggressive. We also know that among people with genotype XYY (one for 700 boys) higher aggressiveness, crimes and sexual deviancy are more common. In general, among the causes of aggression there are three main groups: biological, psychological and social. There are multifactorial theories conditioning aggression. According to one of them, due to the aggressive behavior of human temperament is learning to be aggressive. In this case, the constancy of aggressive behavior depends on the perception of the situation: if the subject is receiving signals, supercritical with respect to the typical situation, and specifically interprets them, then the weak mechanisms to control the behavior and reinforce the skills to respond to aggression with the new stress situation cause aggressive behavior. Such persons have reduced anti-stress protection, impulsivity, low self-control, increased readiness to fear, muscular type of development. These include greater emotional bond with their mother, while neglecting her personality; fear of the father; inability to establish long-term relations; separation of sexuality from the sensual sphere; sexual self-centeredness; aggressive form of sex, promiscuity. The classical description of a portrait of sexual murderers was given by K. Brittain (1970): as introverted, shy, anxious, socially isolated man with “a touch effeminate” ambivalent attachment to his mother, sexual restraint and inexperience, with rich sadistic fantasies, revisionism, or fetishism, a sense of inferiority in relation to other men.

Previously it was thought that sexual offenses are the result of an irresistible desire to satisfy sexual desire. According to modern views, sexual offenses reflect the desire to dominate, suppress the victim, and provide an opportunity to feel superior, while combined with disgust and contempt.

The most important requirement for sexual relations is respect to the sexual integrity of the individual and voluntariness. Violation of this rule is called sexual abuse (I.S.Kon, 2004).

Sexual harassment – obsessive harassment contrary to the reluctance of the object. This type of sexual abuse is manifested in the following forms (Williams & Brake, 1997):

• coercion and bribery (the situation quid pro quo), when sexual relations are carried out in exchange for something (e.g., a teacher from the students for the positive mark);

• malevolent environment, if a person is experiencing discomfort in the workplace because of the hints or sexual assault;

• aggressive actions (unwanted hugs, touches);

• infringement of the interests of third parties, when sexy (love) relationship between people affect the interests of a third party. For example, when the head has a loving relationship with his subordinates, which gives her the right to different preferences (career) that infringes upon the rights of other employees.

The extreme form of sexual coercion (compulsion to perform sexual acts) is rape.

In the Ukrainian domestic law sexual crimes are included in the Penal Code Section VII "Crimes against sexual freedom and sexual inviolability" and Section XII "Crimes against public order and morality":

• murder involving rape or sexual assault;

• crimes against sexual integrity and sexual freedom (rape, violent mode of action of a sexual nature, compulsion to perform sexual acts, sexual intercourse and other sexual acts with a person under 16 years of age, indecent assault, crimes against the family and involving minors in prostitution);

• involvement in prostitution;

• the organization or maintenance of prostitution;

• illegal distribution of pornographic materials or objects.

Biological, social and psychological factors are involved in the formation of motivation of sexual behavior. Individuals who commit sexual offenses usually demonstrate hypertrophied sexual needs.

V.V.Krishtal et al. (2002) gives the following typology of motivations and motives of sexual crimes:

• lightly-irresponsible type of motivation is characteristic for immature infantile, intellectual impaired personalities. Such persons motives of committing violent sexual intercourse are demonstrative, entertaining and are in the pursuit of self-assertion;

• aggressive and selfish type of motivation is characteristic for individuals with spontaneous outbursts of strength, aggressive affect. Forced intercourse is done while driven by the desire for self-affirmation and demonstrative in nature. The motive for the commission of sexual assault is self-actualization;

• passively obey type of motivation; the main motives for sexual violence in such persons is imitation. Because of this, they often take part in group sex crimes;

• genital type of motivation is usually observed in persons with intellectual decline. In this case, the main trigger, the search capabilities to perform sexual intercourse is the appearance of an erection. The motive is to get an orgasm;

• homeostabilizing type of motivation is manifested in individuals experiencing some painful sensation during sexual arousal; in this case, the motive for sexual crimes is the relieve of sexual tension;

• deviant-sensitive type of motivation occurs in individuals with impaired sexual orientation; motive is a realization of deviant desire. In this case, as well as in the aggressive type of selfish and aggressive-type aversion, individual's motive is often not recognized.

It should be noted that the motivation of sexual behavior is not determined by individual traits, but the whole person. In this case, the same sex crimes can be committed for various reasons, and the same motive can lead to a variety of sexual offenses.

Factors and mechanisms affecting the formation of pathological sexual motivation:

• microenvironment; it generates lifestyle motives, hierarchy of motivational sphere. Formation of aggressive or anxious-hypochondriac traits as a result of improper upbringing and impaired communication processes can lead to the formation of pathological motivations in the sexual sphere;

• suggestion and persuasion; formation of sexual behavior as a result of compliance with internal positions of the individual, his self-concept with the suggestion and persuasion on the part of a significant group;

• interaction with the individual situation; creating the conditions for the implementation of the crime through the updating of existing motivational tendencies.

It should be mentioned that the formation of personality changes occurs a long before the commission of the crime, thus, the earlier is the start of these crimes, the more stable they are. Criminal acts of a sexual nature can be committed by an aware or unconscious mechanism. Unconscious motivation is determined by personal characteristics. Unconscious motives usually arise either as a result of blocking the possibility of sexual manifestations, neither as a result of delayed time action of fixed childhood imprinting mechanism. Unconscious motivation is often observed in hysteric personalities. A perceived motivation provides the necessary emotional attitude for the individual to their behavior and to themselves. As another variant, sexual crimes due to unconscious motivations can be committed while person is intoxicated by alcohol or drugs. In this case, the action can be committed impulsively, without prior intentions. The reasons for this behavior is not understood, it takes on an accelerated version, without the decision-making process and understanding the purpose, results and impacts.

CONTROL QUESTIONS

1. Give the definition of sexual deviations.
2. What are the main criteria of paraphilias?
3. Give the definition of sexual harassment.
4. Name the three components of sexual orientation.
5. What are seven parameters of sexual orientations by A. Klein (1990)?
6. Give the definition of transsexualism.
7. What are typical of motivations and motives of criminal sexual conduct?

LESSON 9

MALE INFERTILITY: ETIOLOGY, DIAGNOSIS AND TREATMENT

Duration of lesson: 2 academic hours.

The purpose of the activity: to provide students with a systematic analysis of reproductive health disorders; to familiarize student with etiology and diagnosis of separate forms of male infertility - pre-testicular causes, testicular and post-testicular causes; to give the knowledge about modern methods of treatment.

Place of employment: training room, a computer room.

Equipment classes: tables, training literature, videos.

About one out of seven European couples suffer from reproductive health disorders in the form of infertility or sterility. As male causes for infertility are found in half of involuntarily childless couples, it must be assumed that approximately 7% of all men are confronted with fertility problems. The etiology of impaired sperm production and function can be related to different congenital or acquired factors acting at pre-testicular, post-testicular or directly at the testicular level.

It is generally accepted that the diagnostic workup of infertile couple should be initiated after 12 months of regular unprotected intercourses. However it must be taken into consideration that about half of the couples which do not conceive during the first year will do so during the second year. Earlier evaluation may be performed if known male or female risk factors exist. The diagnostic workup of the infertile male should include careful medical and reproductive history, physical examination and semen analysis followed by second level exams.

Medical and reproductive history is focused on the identification of risk factors or behavioral patterns that could affect fertility. Systemic diseases, previous chemo/radiotherapy, alcohol abuse, gonadal toxicant exposure, intake of anabolic steroids and toxic drugs should be ruled out. The patient should be asked about:

I. familiarity for infertility, recurrent abortion and malformations;
II. duration of infertility and prior fertility with previous or current partner;

III. impaired libido, reduction of the volume of ejaculate, erectile or ejaculatory dysfunction, coital frequency and timing;

IV. orchitis, testicular trauma, inguinal surgery, cryptorchidism and varicocele;

V. sexually transmitted diseases, prostatitis, prostatovesiculitis and recurrent urogenital infections.

Physical exam should include evaluation of secondary sex characteristics such as hair distribution, body proportions, voice and gynecomastia.

Particular focus should be given to the genitalia:

I. examination of the penis including the location of urethral meatus;

II. measurement of testicular volume by Prader orchidometer;

III. palpation of the testes, epididymides for cysts and consistency, vas deferens for total or segmental absence;

IV. palpation of scrotum for varicocele;

V. digital rectal examination.

Certain physical features such as hypoandrogenization, hypospadias may be due to mutations in the androgen receptor gene. Extremely small firm testis, with typical eunocoid features are indicative for Klinefelter syndrome. On the other hand, an eunocoid habitus with infantile genitalia, sparse or nearly absent body hair, gynecomastia and low testicular volume is typical of congenital gonadotrophin deficiency (the presence of hypo/anosmia orients towards Kallmann syndrome).

Semen analysis is of fundamental importance to diagnose and define the severity of the male factor. However, it must be kept in mind, that although the definition of male factor is based on abnormal semen parameters, other male factors (rare functional defects) may play a role even when the semen analysis in normal. Conversely, severe disturbances of semen parameters may still be compatible with the couple’s fertility since a highly fertile female partner may compensate for male subfertility. Semen analysis should be performed according to the WHO manual in a standardized way. This analysis will provide sperm density, total number, motility, morphology and semen parameters such as semen volume, pH, and viscosity. Reference ranges for sperm

parameters have been recently updated and provided by the last version of the WHO manual (2010).

Sperm count, or sperm concentration to avoid confusion with total sperm count, measures the concentration of sperm in a man's ejaculate, distinguished from total sperm count, which is the sperm count multiplied with volume. Over 15 million sperm per milliliter is considered normal, according to the WHO in 2010. Older definitions state 20 million. A lower sperm count is considered oligozoospermia. A vasectomy is considered successful if the sample is azoospermic. Some define success with rare non-motile sperm are observed (fewer than 100,000 per milliliter). Others advocate obtaining a second semen analysis to verify the counts are not increasing (as can happen with re-canalization) and others still may perform a repeat vasectomy for this situation.

The average sperm count today is between 20 and 40 million per milliliter in the Western world, having decreased by 1-2% per year from a substantially higher number decades ago. Increasing the intake of foods rich in vitamin C and antioxidants can lower sperm defects and increase sperm motility.

Motility - WHO has a value of 50% and this must be measured within 60 minutes of collection. WHO also has a parameter of vitality, with a lower reference limit of 60% live spermatozoa. A man can have a total number of sperm far over the limit of 20 million sperm cells per milliliter, but still have bad quality because too few of them are motile. However, if the sperm count is very high, then a low motility (for example, less than 60%) might not matter, because the fraction might still be more than 8 million per milliliter. The other way around, a man can have a sperm count far less than 20 million sperm cells per milliliter and still have good motility, if more than 60% of those observed sperm cells show good forward movement.

A more specified measure is motility grade, where the motility of sperm are divided into four different grades:

- Grade A: Sperm with progressive motility. These are the strongest and swim fast in a straight line.
- Grade B: (non-linear motility): These also move forward but tend to travel in a curved or crooked motion.

- Grade C: These have non-progressive motility because they do not move forward despite the fact that they move their tails.
- Grade D: These are immotile and fail to move at all.

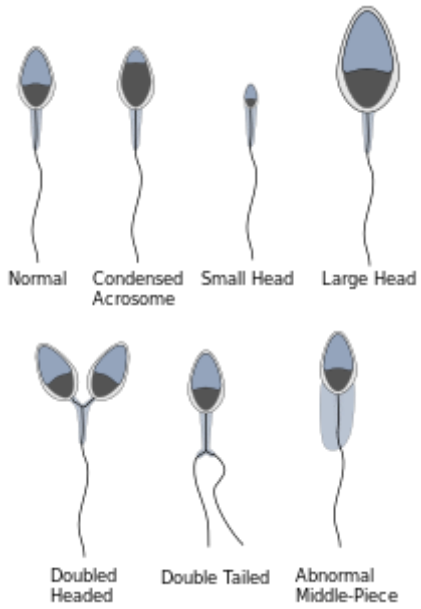

Fig. 8.1. Sperm morphology variability

Regarding sperm morphology, the WHO criteria as described in 2010 state that a sample is normal (samples from men whose partners had a pregnancy in the last 12 months) if 4% or more of the observed sperm have normal morphology.

Morphology is a predictor of success in fertilizing oocytes during in vitro fertilization. Up to 10% of all spermatozoa have observable defects and as such are disadvantaged in terms of fertilizing an oocyte. Also, sperm cells with tail-tip swelling patterns generally have lower frequency of aneuploidy.

A motile sperm organelle morphology examination is a particular morphologic investigation wherein an inverted light microscope equipped with high-power optics and enhanced by digital imaging is used to achieve a magnification above x6000, which is much higher than the magnification used habitually by embryologists in spermatozoa selection for intracytoplasmic sperm injection (x200 to x400). A potential finding is the presence of sperm vacuoles, which are associated with sperm chromatin immaturity, particularly in the case of large vacuoles.

WHO regards semen volume of 1.5 ml as the lower reference limit. Low volume may indicate partial or complete blockage of the seminal vesicles, or that the man was

born without seminal vesicles. In clinical practice, a volume of less than 2 mL in the setting of infertility and absent sperm should prompt an evaluation for obstructive azoospermia. A caveat to this is be sure it has been at least 48 hours since the last ejaculation to time of sample collection.

Fructose level - WHO specifies a normal level of 13 μmol per sample. Absence of fructose may indicate a problem with the seminal vesicles.

Normal pH range is 7.2-7.8 according to WHO criteria. Acidic ejaculate (lower pH value) may indicate one or both of the seminal vesicles are blocked. A basic ejaculate (higher pH value) may indicate an infection.[1] A pH value outside of the normal range is harmful to sperm.

The liquefaction is the process when the gel formed by proteins from the seminal vesicles is broken up and the semen becomes more liquid. It normally takes less than 20 minutes for the sample to change from a thick gel into a liquid. In the NICE guidelines, a liquefaction time within 60 minutes is regarded as within normal ranges.

MOT is a measure of how many million sperm cells per ml are highly motile, that is, approximately of grade A (>25 mcm per 5 sec. at room temperature) and grade B (>25 mcm per 25 sec. at room temperature). Thus, it is a combination of sperm count and motility.

With a straw or a vial volume of 0.5 milliliter, the general guideline is that, for intracervical insemination (ICI), straws or vials making a total of 20 million motile spermatozoa in total is recommended. This is equal to 8 straws or vials 0.5 ml with MOT5, or 2 straws or vials of MOT20. For intrauterine insemination (IUI), 1-2 MOT5 straws or vials is regarded sufficient. In WHO terms, it is thus recommended to use approximately 20 million grade a+b sperm in ICI, and 2 million grade A+Bin IUI.

Total motile spermatozoa (TMS) is a combination of sperm count, motility and volume, measuring how many million sperm cells in an entire ejaculate are motile.

Use of approximately 20 million sperm of motility grade C or D in ICI, and 5 million ones in IUI may be an approximate recommendation.

In case abnormal sperm parameters are found semen analysis should be repeated. The nomenclature used in case of pathological findings is the following:

1. Oligozoospermia – sperm concentration $<15\times10^6$/ml (total sperm count $<39\times10^6$/ml);
2. Asthenozoospermia – <32% of progressively motile spermatozoa;
3. Teratozoospermia – <4% of morphologically normal spermatozoa;
4. Oligo-asteno-teratozoospermia – disturbance of all three parameters (sperm count, motility and morphology);
5. Azoospermia – no spermatozoa in the ejaculate;
6. Cryptozoospermia – spermatozoa absent from fresh preparation, but observed in a centrifuged pellet;
7. Aspermia – no ejaculate;
8. Leucospermia (leucocytospermia) > 10^6/ml leucocytes in the ejaculate.

In general, diagnosis should be based on at least 2 semen analyses and if they are discordant a third exam in requested. Pre-analytical factors able to interfere with the reliability of the analysis are:

I. inappropriate collection or transport of semen (the specimen should be kept at body temperature during transport; the abstinence period should be between 2–5 days, no loss of ejaculate during collection should occur);
II. antibiotic therapy or fever before semen collection (N.B. spermatogenesis takes almost 3 months in human and the effect of an exogeneous noxae may persist over 2–3 months).

Analytical factors may also alter the reliability of the exam and for this reason laboratories should participate at an external quality control program. In the era of second level assisted reproductive techniques, such as Intra Cytoplasmic Sperm Injection (ICSI) for which few spermatozoa are sufficient for fertilization, it is important that the laboratory performs the analysis of pellet after centrifugation of the semen specimen, in order to distinguish between azoospermia (complete absence of spermatozoa both in the ejaculate and in the pellet) and cryptozoospermia (absence of spermatozoa in the ejaculate but detection of spermatozoa in the pellet). Similarly, the distinction between necrozoospermia (immotile and dead) and immotile spermatozoa

(living but immotile) by supravital staining is important before ICSI is advised, since in the former case the likelihood of successful embryo development is virtually zero.

Second level exams should be performed to further elucidate the etiology and are selected on the basis of clinical suspicion and semen phenotype. Some of these analyses may also provide prognostic values for testicular sperm retrieval in azoospermic men. The most relevant second level exams are: hormone measurement (FSH, LH, total testosterone and SHBG), genetic testing, microbiological exam of semen and urine, urethral swab, scrotal and testicular ultrasound, scrotal color Doppler and transrectal ultrasound.

Etiology of male factor infertility

Pre-testicular causes

This category of infertility includes mainly two types of pathological conditions: hypogonadotrophic hypogonadism (HH) and coital disorders (erectile dysfunction, ejaculatory disorders such as ejaculatio precox, retrograde ejaculation).

Hypogonadotrophic hypogonadism.

The deficit of LH and FSH secretion may be due to congenital or acquired factors which may berelated to a primary lesion in the pituitary gland or could be secondary to insufficient hypothalamic GnRH production. The diagnosis of acquired HH, is of importance not only with respect to infertility but also for its potential implications to general health (in some cases it may represent a life-threatening condition). In fact, acquired HH can be related to tumours (both benign or malignant), and may affect the secretion of more than one pituitary hormone leading to their deficit or excess. Common causes of acquired HH are tumours (secreting or non-secreting pituitary adenomas, craniofaryngioma, meningioma etc.), infections, infiltrative diseases, empty sella, radiation treatment and autoimmune hypophisitis.

The phenotypic presentation of congenital and acquired forms are substantially different. Congenital conditions are usually associated with delayed puberty and related signs (eunochoid habitus, sparse or nearly absent body hair, gynecomastia and very low testicular volume). However, in some cases reduced spermatogenesis and mild

hypoandrogenism may be the only symptoms and thus the diagnosis may be delayed until adulthood. Acquired forms in adulthood usually manifest with few symptoms (if only gonadotrophins are affected) such as the reduction of the volume of ejaculate, of beard growth, impaired libido and asthenia.

The diagnosis of HH is based on hormone measurement showing low plasma levels of LH, FSH and testosterone but in certain forms other pituitary hormones may be increased (for example PRL or GH) or decreased depending on the etiology. Brain imaging (MR or CT) and of sella turcica completes the diagnostic workup in acquired cases. Anabolic steroid abuse may also lead to pseudo-central form of hypogonadism and patients should be explicitly asked about the use of such drugs when no sign of hypoandrogenization is present with very low LH values.

HH is a treatable form of infertility and the treatment with gonadotrophins will allow natural conception in the large majority of cases (even with relatively low sperm count, if the female partner is fertile).

Coital disorders

Erectile dysfunction and ejaculatory disorders are very rare cause of infertility. A careful andrological diagnostic workup is mandatory in order to exclude organic forms of erectile dysfunction (vascular, neurogenic) and other co-morbidities. Anejaculation or retrograde ejaculation may occur in diabetic patients as well as after retroperitoneal lymph-node dissection, spinal cord injury, bladder neck surgery and multiple sclerosis.8

The diagnosis of retrograde ejaculation is based on the absence of spermatozoa in the seminal fluid but their presence in the urine after masturbation. Assisted reproductive techniques (mainly in vitro fertilization with embryo transfer, IVF) are the only reliable options in case of retrograde ejaculation. In subjects affected by anejaculation due to spinal cord injury both vibrostimulation and electro-ejaculation are effective methods for sperm retrieval and pregnancy can be obtained via IntraCytoplasmic Sperm Injection (ICSI). Medical treatment is widely available for most patients affected by erectile dysfunction and premature ejaculation. Psychosexual therapy (individual or of the couple) is a valid therapeutic option especially for premature ejaculation and psycogenic erectile dysfunction.

Post-testicular causes

This etiological category includes all obstructive/subobstructive lesions of the seminal tract (distal or proximal), infections and inflammatory diseases of accessory glands and autoimmune infertility. In case of bilateral obstruction the semen phenotype is azoospermia (absence of spermatozoa in the ejaculate) while in the other post-testicular conditions a different degree of impairment of the three major sperm parameters (sperm count, motility and morphology) can be observed. Diseases affecting the accessory glands are typically associated with low volume of ejaculate due to the fact that about 90% of the ejaculate originates from the seminal vesicles and prostate. Low semen volume with high pH and viscosity is characteristic for prostatitis or ejaculatory duct obstruction due to prostatic cyst. The presence of leucocytes over 1 million/ml is typical for inflammation of accessory glands. The most common pathogens causing infections of the urogenital tract are Ureaplasma urealyticum, Enterococcus faecalis, Escherichia Coli and are usually associated with typical irritative urinary tract symptoms and prostatodynia. The presence of microorganisms and/or leucocytes in the seminal fluid may affect sperm motility and the fertilizing capacity of spermatozoa due to the production of reactive oxygen radicals by activated leucocytes.11 An autoimmune reaction against the spermatozoa as an isolated abnormality is seen in <5% of infertile males. The presence of antisperm antibodies can be the consequence of previous infections or inflammatory diseases of the testis or epididymis able to disrupt the haematotesticular barrier. If the percentage of motile spermatozoa coated by antisperm antibodies is >80%, a pure immunological factor is likely and the only therapeutic option is in vitro fertilization.

Congenital absence of the vas deferens is a congenital post-testicular disease which may affect one or both vas deferens and is typically associated with agenesis of the seminal vesicles, and epididymal malformations. The congenital bilateral absence of the vas deferens with agenesis of seminal vesicles can be suspected after scrotal examination (absence of vas deferens) and on the basis of semen analysis: semen volume <1.0 ml with an acid pH (<7) and absence of spermatozoa and of immature

germ cells in semen smears. Transrectal ultrasound and eventually the measurement of seminal markers of the seminal vesicles (fructose) or epididymis (alpha-glucosidase) will provide further elements for the final diagnosis.

The diagnosis of post-testicular forms is based on physical exam (testis volume is typically normal, signs of epididymal or vas deferens obstruction or cyst or agenesis), normal FSH values and scrotal and/or transrectal ultrasound (to better localize the level of obstruction and the accessory glands). In addition, microbiological exams should be performed in case of suspected prostatitis or prostatevesiculitis or epididymitis or of history of recurrent urogenital tract infections in the patient or in his partner. The search for pathogens such as Chlamydia and Ureaplasm should be performed in urethral swab, while other germs can be analyzed in the seminal fluid and urine.

Primitive testicular dysfunction

A large number of pathologies may lead to primary testicular failure (see Table 1). Among them cryptorchidism (especially bilateral forms), orchitis, testis trauma, torsions, iatrogenic forms (gonadotoxic medications, chemo/radiotherapy, previous inguinal surgery), some systemic diseases and genetic factors such as caryotype anomalies and Y chromosome microdeletions are well defined causes of impaired sperm production.

Varicocele

The association of varicocele with infertility is not clear-cut as it can be observed also in about 10% of normozoospermic men. On the basis of the WHO data varicocele is related to semen abnormalities, decreased testicular volume and decline in Leydig cell function and therefore it can be considered as a co-factor of impaired sperm production. Despite this potential negative effect, which is largely dependent on the grade of varicocele, the large WHO infertility study focusing on varicocele indicated that there was an excess of couples in which both partners had factors associated with reduced fertility compared with the expected rate of coincidence in the general population. This implies that a minor cause of impaired fertility, such as varicocele, will manifest more likely in couples in which the female partner also has reduced fertility. The diagnosis of

varicocele is made by clinical examination and can be confirmed by colour Doppler analysis. According to the EAU guidelines 2013 varicocele treatment is recommended for symptomatic cases and for adolescents who have progressive failure of testicular development documented by serial clinical examinations.

Cryptorchidism is the most frequent congenital birth defect in male children and can occur as an isolated disorder or in association with other congenital anomalies (syndromic cryptorchidism). The incidence varies between 2 and 9% at birth (with some geographical variations across Europe) and decreases to 1–2% by 3 months of age due to delayed spontaneous descent. However, cryptorchidism is found not only as a congenital disorder, but also as an acquired disorder diagnosed during infancy and childhood. The so called "acquired cryptorchidism" is defined as the ascent of the testis into a cryptorchid position after normal scrotal position at birth and its cumulative incidence by age 24 months can be even higher than that observed at birth. The interaction of genetic and environmental (mainly endocrine disrupters) factors acting on the fetal testis has been proposed as the major determinant of the progressive increase during the past 50 years of pathologies such as cryptorchidism, testis cancer, hypospadia and impaired spermatogenesis. This observation lead to the theory of the testicular dysgenesis syndrome which includes all the four above mentioned pathologies. Congenital and acquired cryptorchidisms are both very common but may have different etiology and consequences for fertility may also be different.

Chromosomal abnormalities

Caryotype abnormalities occurs in about 0.4% of the general population and can affect the number or the structure of chromosomes. The majority of chromosome abnormalities are generated during meiosis Severely impaired sperm production is associated with a significantly higher frequency of both numerical and structural chromosomopathies.

The more severe is the testicular phenotype the higher is the frequency of chromosomal abnormalities. Patients with less than 10 million spermatozoa/ml show already a 10 times higher incidence (4%) of mainly autosomal structural abnormalities

in respect to the general population. Among severe oligozoospermic men (<5 million spermatozoa/ml) the frequency increases to 7-8%, whereas in non-obstructive azoospermic men it reaches the highest values, 15-16%.

Klinefelter syndrome (47, XXY) represents the most common caryotype abnormality in azoospermia and severe male factor infertility, followed by Y chromosome terminal deletions (Yq-) and structural autosomal abnormalities. About 80% of patients bear a 47, XXY caryotype whereas the other 20% represented either by 47, XXY/46, XY mosaics or higher grade sex chromosomal aneuploidy or structurally abnormal X chromosome. However, testicular sperm extraction and especially microsurgical testicular sperm extraction followed by ICSI with an average of 30–50% of testicular sperm recovery rate may allow Klinefelter patients to generate their own genetic children. Moreover spermatozoa can even be found in the ejaculate of mainly mosaic patients or in non-mosaic but young patients, indicating the potential importance of an early diagnosis which would allow a preventive cryopreservation of ejaculated spermatozoa to preserve fertility.

Y chromosome microdeletion is the most frequent known molecular genetic cause of severe impairment of spermatogenesis. Its frequency is about 10% in non-obstructive azoospermic and 3–5% in idiopathic severe oligozoospermic men. The identification of Yq microdeletions is not only relevant for the diagnosis but it may have prognostic value prior testicular biopsy. In this regard, in case of complete deletions of the Y chromosome testicular biopsy is not advised because the chance of finding spermatozoa is virtually zero.

Mutation analysis of the AR gene. The AR gene is situated on the X chromosome and its screening should be performed only in suspected mild form of Partial Androgen Insensitivity. Patients with this pathology have male infertility as their primary or even sole symptoms. This condition can be suspected on the basis of hormone profile (hypoandrogenization).

Diagnosis of primary testicular dysfunction

In case of severe impairment of spermatogenesis FSH level is usually increased above the normal range (>8 IU/L) and testis volume is reduced (<15 ml). Although both

FSH values and testis volume reflect the degree of spermatogenic failure (the more severe forms are associated with the highest FSH values and lowest testis volume), there is no absolute FSH value or testis size to predict the presence/absence of spermatozoa in the testis of an azoospermic man. Moderate/mild oligozoospermia and azoospermia due to spermatogenic arrest (meiotic or post-meiotic phases) are typically associated with normal FSH and normal testis volume. Scrotal color Doppler ultrasound is usually performed in the case of varicocele for grading. Given that the incidence of testis cancer is higher in patients with history of cryptorchidism and in those affected by severe impairment of spermatogenesis (especially if testicles are severely hypotrophic), testis ultrasound in these patients is advised for preventive purposes. Genetic testing should be performed according to the semen phenotype (caryotype and Y deletions) and level of androgenization.

Despite major advances in the diagnostic workup of infertile males, the etiopathogenesis of testicular failure remains undefined in about 50% of cases and are referred to as “idiopathic infertility”. These idiopathic”cases are likely to be of genetic origin since the number of genes involved in human spermatogenesis is probably over thousands and only a small proportion of them has so far been identified and even fewer has been analyzed. Using genetic tests, a genetic factor can be diagnosed in about 15% of cases.

Apart from few exceptions, such as central hypogonadism and some post-testicular forms, the only available treatment option for the large majority of male factor infertility is medically-assisted reproductive technology (ART), especially in vitro fertilization (IVF) or ICSI. However, ART is a symptomatic therapy which does not address the underlying cause for infertility with the risk of transmitting both identified and not yet identified genetic anomalies. An increased incidence of malformations and chromosomal anomalies is probable, especially when the reason for performing ART was severe male factor infertility. Apart from the above mentioned health consequences of the offspring fathered by a man with severe spermatogenic failure, there is still very little known about the long term health condition of both the infertile man and of his offspring.

There is a strong need for an intense research in the field of genetics and epigentics of male infertility not only to provide the missing etiologic factors but also to ensure appropriate genetic counselling and a rational basis for the development of future etiology-based prevention and therapies.

Types of medically-assisted reproductive technologies:

Artificial insemination involves sperm being placed into a female's uterus (intrauterine) or cervix (intracervical) using artificial means rather than by sexual intercourse. This can be a very low-tech process, performed at home by the woman alone or with her partner.

Conception devices, such as a conception cap may be used to aid conception by enhancing the natural process. Conception caps are used by placing semen into a small conception cap, then placing the cap onto the cervix. This holds the semen at the cervical os, protecting the semen from the acidic vaginal secretions and keeping it in contact with the cervical mucus.

Sperm donors may be used where the woman does not have a male partner with functional sperm.

In vitro fertilization is the technique of letting fertilization of the male and female gametes (sperm and egg) occur outside the female body.

Techniques usually used in in vitro fertilization include:

- Transvaginal ovum retrieval is the process whereby a small needle is inserted through the back of the vagina and guided via ultrasound into the ovarian follicles to collect the fluid that contains the eggs.
- Embryo transfer is the step in the process whereby one or several embryos are placed into the uterus of the female with the intent to establish a pregnancy.

Less commonly used techniques in in vitro fertilization are:

- Assisted zona hatching is performed shortly before the embryo is transferred to the uterus. A small opening is made in the outer layer surrounding the egg in order to help the embryo hatch out and aid in the implantation process of the growing embryo.

- **Intracytoplasmic sperm injection (ICSI)** is beneficial in the case of male factor infertility where sperm counts are very low or failed fertilization occurred with previous IVF attempt(s). The ICSI procedure involves a single sperm carefully injected into the center of an egg using a microneedle. This method is also sometimes employed when donor sperm is used.
- Autologous endometrial coculture is a possible treatment for patients who have failed previous IVF attempts or who have poor embryo quality. The patient's fertilized eggs are placed on top of a layer of cells from the patient's own uterine lining, creating a more natural environment for embryo development.
- Cytoplasmic transfer is the technique in which the contents of a fertile egg from a donor are injected into the infertile egg of the patient along with the sperm.
- Sperm donation may provide the source for the sperm used in IVF procedures where the male partner produces no sperm or has an inheritable disease, or where the woman being treated has no male partner.
- Preimplantation genetic diagnosis involves the use of genetic screening mechanisms such as fluorescent in-situ hybridization or comparative genomic hybridization to help identify genetically abnormal embryos and improve healthy outcomes.

CONTROL QUESTIONS

1. What is the prevalence of male infertility in European countries?
2. Give the definition of male infertility.
3. What parameters are taken into account in the analysis of semen?
4. What is the average sperm count today?
5. List the pre-testicular causes of infertility.
6. What are EAU guidelines 2013 varicocele treatment recommendations?
7. Name the types of cryptorchidism.
8. What chromosomal abnormalities usually cause male infertility?
9. What are criteria of diagnosis of primary testicular dysfunction?
10. What are the main types of medically-assisted reproductive technologies?

LESSON 10

FAMILY PLANNING

Duration of lesson: 2 academic hours.

The purpose of the activity: to familiarize students with modern methods of family planning and birth control

Place of employment: training room, a computer room.

Equipment classes: tables, training literature, videos.

Family planning - those activities that are intended to help individuals or couples to avoid unwanted pregnancies, produce a desired children, spacing of pregnancies, control the timing of births, depending on the age of the parents and the number of children in the family (W. Masters Johnson B., R. Kolodny, 1998).

Keypoints are:

1. An estimated 222 million women in developing countries would like to delay or stop childbearing but are not using any method of contraception.
2. Some family planning methods help prevent the transmission of HIV and other sexually transmitted infections.
3. Family planning reduces the need for unsafe abortion.
4. Family planning reinforces people's rights to determine the number and spacing of their children.

One of the main characteristics of a healthy sex - the ability to schedule births and recreational functions separation of sexuality from procreation.

Benefits of family planning

Promotion of family planning – and ensuring access to preferred contraceptive methods for women and couples – is essential to securing the well-being and autonomy of women, while supporting the health and development of communities.

Preventing pregnancy-related health risks in women

A woman's ability to choose if and when to become pregnant has a direct impact on her health and well-being. Family planning allows spacing of pregnancies and can delay pregnancies in young women at increased risk of health problems and death from

early childbearing, and can prevent pregnancies among older women who also face increased risks. Family planning enables women who wish to limit the size of their families to do so. Evidence suggests that women who have more than four children are at increased risk of maternal mortality. By reducing rates of unintended pregnancies, family planning also reduces the need for unsafe abortion.

Reducing infant mortality

Family planning can prevent closely spaced and ill-timed pregnancies and births, which contribute to some of the world's highest infant mortality rates. Infants of mothers who die as a result of giving birth also have a greater risk of death and poor health.

Helping to prevent HIV/AIDS

Family planning reduces the risk of unintended pregnancies among women living with HIV, resulting in fewer infected babies and orphans. In addition, male and female condoms provide dual protection against unintended pregnancies and against STIs including HIV.

Empowering people and enhancing education

Family planning enables people to make informed choices about their sexual and reproductive health. Family planning represents an opportunity for women for enhanced education and participation in public life, including paid employment in non-family organizations. Additionally, having smaller families allows parents to invest more in each child. Children with fewer siblings tend to stay in school longer than those with many siblings.

Reducing adolescent pregnancies

Pregnant adolescents are more likely to have preterm or low birth-weight babies. Babies born to adolescents have higher rates of neonatal mortality. Many adolescent girls who become pregnant have to leave school. This has long-term implications for them as individuals, their families and communities.

Slowing population growth

Family planning is key to slowing unsustainable population growth and the resulting negative impacts on the economy, environment, and national and regional development efforts.

It is important that family planning is widely available and easily accessible through midwives and other trained health workers to anyone who is sexually active, including adolescents. Midwives are trained to provide (where authorised) locally available and culturally acceptable contraceptive methods. Other trained health workers, for example community health workers, also provide counseling and some family planning methods, for example pills and condoms. For methods such as sterilization, women and men need to be referred to a clinician.

Contraceptive use

Contraceptive use has increased in many parts of the world, especially in Asia and Latin America, but continues to be low in sub-Saharan Africa. Globally, use of modern contraception has risen slightly, from 54% in 1990 to 57% in 2012. Regionally, the proportion of women aged 15–49 reporting use of a modern contraceptive method has risen minimally or plateaued between 2008 and 2012. In Africa it went from 23% to 24%, in Asia it has remained at 62%, and in Latin America and the Caribbean it rose slightly from 64% to 67%. There is with significant variation among countries in these regions. Use of contraception by men makes up a relatively small subset of the above prevalence rates. The modern contraceptive methods for men are limited to male condoms and sterilization (vasectomy).

An estimated 222 million women in developing countries would like to delay or stop childbearing but are not using any method of contraception. Reasons for this include:

- limited choice of methods;
- limited access to contraception, particularly among young people, poorer segments of populations, or unmarried people;
- fear or experience of side-effects;

- cultural or religious opposition;
- poor quality of available services;
- gender-based barriers.

The unmet need for contraception remains too high. This inequity is fueled by both a growing population, and a shortage of family planning services. In Africa, 53% of women of reproductive age have an unmet need for modern contraception. In Asia, and Latin America and the Caribbean – regions with relatively high contraceptive prevalence – the levels of unmet need are 21% and 22%, respectively.

Overview of traditional and modern contraceptive methods is given in Tables 9.1 and 9.2.

Table 9.1

Traditional methods of contraception

Method	Description	How it works	Effectiveness Comments	Method
Withdrawal (coitus interruptus)	Man withdraws his penis from his partner`s vagina, and ejaculates outside the vagina, keeping semen away from her external genitalia	Tries to keep sperm out of women`s body, preventing fertilization	96% with correct and consistent use 73% as commonly used	One of the least effective methods, because the proper timing of withdrawal is often difficult to determine
Fertility awareness methods (natural family planning or periodic abstinence)	Calendar based methods: monitoring fertile days in menstrual cycle; symptom-based methods: monitoring cervical mucus and body temperature	The couple prevents pregnancy by avoiding unprotected vaginal sex during most fertile days, usually by abstaining or by using condoms	95-97% with correct and consistent use 75% as commonly used	Can be used to identify fertile days by both women who want to become pregnant and women who want to avoid pregnancy. Correct, consistent use requires partner cooperation.

Table 9.2

Modern methods of contraception

Method	Description	How it works	Effectiveness Comments	Method
Combined oral contraceptives (COCs) or “the pill”	Contains two hormones (estrogen and progestogen)	Prevents the release of eggs from the ovaries (ovulation)	>99% with correct and consistent use 92% as commonly used	Reduces risk of endometrial and ovarian cancer; should not be taken while breastfeeding
Progestogen-only pills (POPs) or "the minipill"	Contains only progestogen hormone, not estrogen	Thickens cervical mucous to block sperm and egg from meeting and prevents ovulation	99% with correct and consistent use 90–97% as commonly used	Can be used while breastfeeding; must be taken at the same time each day
Implants	Small, flexible rods or capsules placed under the skin of the upper arm; contains progestogen hormone only	Same mechanism as POPs	>99%	Health-care provider must insert and remove; can be used for 3–5 years depending on implant; irregular vaginal bleeding common but not harmful
Progestogen only injectables	Injected into the muscle every 2 or 3 months, depending on product	Same mechanism as POPs	>99% with correct and consistent use 97% as commonly used	Delayed return to fertility (1–4 months) after use; irregular vaginal bleeding common, but not harmful

Monthly injectables or combined injectable contraceptives (CIC)	Injected monthly into the muscle, contains estrogen and progestogen	Same mechanism as COCs	>99% with correct and consistent use 97% as commonly used	Irregular vaginal bleeding common, but not harmful
Intrauterine device (IUD): copper containing	Small flexible plastic device containing copper sleeves or wire that is inserted into the uterus	Copper component damages sperm and prevents it from meeting the egg	>99%	Longer and heavier periods during first months of use are common but not harmful; can also be used as emergency contraception
Intrauterine device (IUD) levonorgestrel	A T-shaped plastic device inserted into the uterus that steadily releases small amounts of levonorgestrel each day	Suppresses the growth of the lining of uterus (endometrium)	>99%	Reduces menstrual cramps and symptoms of endometriosis; amenorrhea (no menstrual bleeding) in a group of users
Male condoms	Sheaths or coverings that fit over a man's erect penis	Forms a barrier to prevent sperm and egg from meeting	98% with correct and consistent use; 85% as commonly used	Also protects against sexually transmitted infections, including HIV
Female condoms	Sheaths, or linings, that fit loosely inside a vagina, made of thin, transparent, soft plastic film	Forms a barrier to prevent sperm and egg from meeting	90% with correct and consistent use 79% as commonly used	Also protects against sexually transmitted infections, including HIV

Male sterilization (vasectomy)	Permanent contraception to block or cut the vas deferens tubes that carry sperm from the testicles	Keeps sperm out of ejaculated semen	>99% after 3 months semen evaluation 97–98% with no semen evaluation	3 months delay in taking effect while stored sperm is still present; does not affect male sexual performance; voluntary and informed choice is essential
Female sterilization (tubal ligation)	Permanent contraception to block or cut the fallopian tubes	Eggs are blocked from meeting sperm	>99%	Voluntary and informed choice is essential
Lactational amenorrhea method (LAM)	Temporary contraception for new mothers whose monthly bleeding has not returned; requires exclusive breastfeeding day and night of an infant less than 6 months old	Prevents the release of eggs from the ovaries (ovulation)	99% with correct and consistent use 98% as commonly used	A temporary family planning method based on the natural effect of breastfeeding on fertility
Emergency contraception (levonorgestrel 1.5 mg)	Progestogen-only pills used to prevent pregnancy up to 5 days of unprotected sex	Prevents ovulation	Reduces risk of pregnancy by 60–90%	Does not disrupt an already existing pregnancy

Another wide field of family planning is abortions.

Abortion is the ending of pregnancy by the removal or forcing out from the womb of a fetus or embryo before it is able to survive on its own. An abortion can occur spontaneously, in which case it is often called a miscarriage. It can also be purposely caused in which case it is known as an induced abortion. The term abortion most commonly refers to the induced abortion of a human pregnancy.

Modern medicine uses medications or surgical methods for induced abortion. The two medications mifepristone and prostaglandin are as effective as a surgical method in the first trimester. While the use of medications may be effective in the second trimester, surgical methods appear to have a lower risk of side effects. Birth control, including the pill and intrauterine devices can be started immediately after an abortion. Abortion in the developed world has a long history of being among the safest procedures in medicine when allowed by local law. Uncomplicated abortions do not cause either long term mental health or physical problems.The World Health Organization recommends that this same level of safe and legal abortions be available to all women globally. Unsafe abortions, however, result in approximately 47,000 maternal deaths and 5 million hospital admissions per year globally.

An estimated 44 million abortions are performed globally each year, with slightly under half of those performed unsafely. Rates of abortions have changed little between 2003 and 2008, after having previously spent decades declining as access to education regarding family planning and birth control improved. As of 2008, forty percent of the world's women had access to legal induced abortions "without restriction as to reason". There are; however, limits regarding how far along in pregnant they can be performed.

Induced abortion has a long history. They have been performed by various methods, including herbal medicines, the use of sharpened tools, physical trauma, and other traditional methods since ancient times. The laws surrounding abortion, how frequently they are performed, and their cultural and religious status vary greatly around the world. In some contexts, abortion is legal based on specific conditions, such as rape, problems with the fetus, socioeconomic factors, the risk to a mother's health or incest. In many parts of the world there is prominent public controversy over the moral, ethical,

and legal issues of abortion. Those who are against abortion generally state that an embryo or fetus is a human with the right to life and may compare abortion to murder. Those who support abortion rights emphasize a woman's right to decide matters concerning her own body as well as emphasizing human rights generally.

Approximately 205 million pregnancies occur each year worldwide. A pregnancy can be intentionally aborted in several ways. The manner selected often depends upon the gestational age of the embryo or fetus, which increases in size as the pregnancy progresses. Specific procedures may also be selected due to legality, regional availability, and doctor or patient preference.

Reasons for procuring induced abortions are typically characterized as either therapeutic or elective. An abortion is medically referred to as a therapeutic abortion when it is performed to save the life of the pregnant woman; prevent harm to the woman's physical or mental health; terminate a pregnancy where indications are that the child will have a significantly increased chance of premature morbidity or mortality or be otherwise disabled; or to selectively reduce the number of fetuses to lessen health risks associated with multiple pregnancy. An abortion is referred to as an elective or voluntary abortion when it is performed at the request of the woman for non-medical reasons.

Medical abortions are those induced by abortifacient pharmaceuticals. Medical abortion became an alternative method of abortion with the availability of prostaglandin analogs in the 1970's and the antiprogestogen mifepristone in the 1980's.

The most common early first-trimester medical abortion regimens use mifepristone in combination with a prostaglandin analog (misoprostol or gemeprost) up to 9 weeks of gestational age, methotrexate in combination with a prostaglandin analog up to 7 weeks of gestation, or a prostaglandin analog alone. Mifepristone–misoprostol combination regimens work faster and are more effective at later gestational ages than methotrexate–misoprostol combination regimens, and combination regimens are more effective than misoprostol alone. This regime is effective in the second trimester.

In very early abortions, up to 7 weeks gestation, medical abortion using a mifepristone–misoprostol combination regimen is considered to be more effective than ***surgical abortion*** (vacuum aspiration), especially when clinical practice does not include detailed inspection of aspirated tissue. Early medical abortion regimens using mifepristone, followed 24–48 hours later by buccal or vaginal misoprostol are 98% effective up to 9 weeks gestational age. If medical abortion fails, surgical abortion must be used to complete the procedure.

Early medical abortions account for the majority of abortions before 9 weeks gestation in Britain, France, Switzerland, and the Nordic countries. In the United States, the percentage of early medical abortions is far lower. Medical abortion regimens using mifepristone in combination with a prostaglandin analog are the most common methods used for second-trimester abortions in Canada, most of Europe, China and India, in contrast to the United States where 96% of second-trimester abortions are performed surgically by dilation and evacuation.

Induced abortion has long been the source of considerable debate, controversy, and activism. An individual's position concerning the complex ethical, moral, philosophical, biological, and legal issues which surround abortion is often related to his or her value system. Opinions of abortion may be described as being a combination of beliefs about abortion's morality, beliefs about the proper extent of governmental authority in public policy, and beliefs about the rights and responsibilities of the woman seeking to have an abortion. Religious ethics also has an influence both on personal opinion and on the greater debate over abortion.

CONTROL QUESTIONS

1. Please give the definition of family planning.
2. What are the main benefits of family planning?
3. What is the rate of contraceptive use in African countries?
4. What is the rate of contraceptive use among Europeans?
5. Name the common limitations of contraception use.
6. Define the effectiveness of male sterilization (vasectomy).
7. What is pregnancy reduction risk when using emergency contraception with levonorgestrel 1.5 mg?
8. What are additional benefits of using male and female condoms?
9. Please give the definition of abortion.
10. What medications are usually used to provide medical abortion?

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DICTIONARY AND ABBREVIATIONS
OF SEXOLOGICAL AND PSYCHOLOCICAL TERMS

ART - medically-assistedreproductive technology.

COCs - combined oralcontraceptives

CT - computed tomography

DHEA - dehydroepiandrosterone

DHEAS - dehydroepiandrosterone sulfate

DHT - dehydrotestosterone

DRI – digital rectal examination

FOD - female orgasm dysfunction

FSAD - female sexual arousal disorder

FSH - follicle-stimulating hormone.

FSFI- female sexual function index

ICSI - intracytoplasmic sperm injection

IIEF - international index of erectile dysfunction

IVF - in vitro fertilization

IUD-intrauterine device

LAM - lactational amenorrhea method

LH - luteinizing hormone

MRI - magnetic resonance imaging

SHBG - sex-hormone binding globulin

T - testosterone

US – ultrasound examination

Abstinence (**sexual deprivation**) - stimulated periods of abstinence.

Androgens - male sex hormones (testosterone, androsterone, et al.).

Androgyny - both male and female characteristics in the individual.

Androfilia - a kind of male homosexuality: attracted to older men.

Anesthesia sexual - the same that frigidity.

Anorgasmia - lack of orgasm during sexual intercourse.

Autoerotism - orientation of sexual attraction to itself (narcissism)|

Aphrodisiacs - substances that stimulate sexual desire, sexual arousal.

Bisexuality - in the broadest sense of the word possession of properties characteristic of both sexes (androgyny), in the narrow sense - sexual attraction to persons of both sexes.

Castration - impact, causing a complete cessation of gonadal function (hormonal, radiation, traumatic and surgical).

Coitus (**copulation**) - sexual intercourse.

Coitus interruptus - the sexual act in which a man, feeling the proximity of the orgasm, for warning pregnancy reasons removes his penis from the vagina, avoiding sperm from getting to the female genital tract.

Contraceptives – drugs or methods preventing pregnancy.

Copulative frictions - the movement of the penis in the vagina produced during sexual intercourse.

Cunnilingus - oral stimulation of the female genitalia.

Defloration - breaking the hymen.

Dyspareunia - term for a wide range of disorders, mainly women, from a lack of sexual desire (asexuality) and inability to orgasm (anorgasmia) to disharmony of sexual relations between spouses (disgamia), pain in the genital organs (genitalgia) and muscle spasms that impede sexual intercourse or make it impossible (vaginismus).

Ejaculation - reflex act, the moment when semen spurts out of the opening of the urethra in the glans of the penis.

Erection - reflex filling the penis or clitoris by blood, which gives rigidity to these structures.

Erogenous zones - areas of the body, which irritation cause sexual arousal.

Erotomania - increased libido; the same as hypersexuality.

Estrogen - the female sex hormone.

Exhibitionism - to achieve sexual satisfaction by demonstrations genitals to persons of the opposite sex.

Femininity - a set of physical, mental and behavioral characteristics that distinguish women from men.

Fellatio - induction of sexual arousal the action of the mouth and tongue on the penis of partner.

Fetishism - to achieve sexual satisfaction through manipulations and contact with objects, which themselves do not have erotic value (clothes, shoes, etc.), but symbolizing sexual partner.

Frigidity - weak sex arousal or sexual excitability; may be accompanied by an aversion to sexual intercourse.

Femininity - a set of physical, mental and behavioral characteristics that distinguish women from men.

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Frigidity - weak sex arousal or sexual excitability; may be accompanied by an aversion to sexual intercourse.

Gender identity - conscious sexuality, individualism, which relate to other properties of person`s identity.

Genitals - the sex organs.

Gonads - the sex glands.

Hetero / **homosexuality** - preference for sexual partners of the opposite / same sex.

Heterosexuality/ **homoeroticism** - erotic attraction to persons of opposite / own sex.

Hypersexuality (**nymphomania**, **satyriasis**) - increased sexual attraction.

Hypogonadism - underdevelopment of the genital organs and secondary sexual characteristics due to reduced secretion of sex hormones.

Hyposexuality - decreased sexual desire; extreme manifestation in females - frigidity.

Hirsutism - growth of mustache, beard in women; manifestation of virilization.

Impotence - inability of a man to have intercourse, or to provide sexual pleasure for both partners. Under impotence it should be understood a variety of impairments of erectile function, ejaculation and other sexual reactions.

Intromission - the introduction of the penis into the vagina.

Incest - sexual intercourse between nearby relatives.

Lesbian love (lesbianism) - female homosexuality.

Libido - sexual attraction.

Masochism - sexual satisfaction with physical or mental suffering caused by sexual partner.

Masculinity - a set of physical, mental and behavioral characteristics that distinguish male from female.

Masturbation - sexual self-gratification, often by irritation of the genitals.

Menarche - first menstruation.

Menopause - the cessation of menstruation in women, indicating the end of the reproductive period of her life.

Multiorgastic - the ability to experience orgasm several times during a single sexual act; typical for women.

Nymphomania - increased libido (hypersexuality) in females.

Oygarhe - the first pollution.

Oral - related to the oral cavity.

Orgasm - the highest degree of voluptuous sensations that occur at the time of completion of intercourse or other sexual actions.

Orgasmic platform (**orgasmic cuff**) - pre-tonic muscle tension of the outer third of the vagina, which is associated with the occurrence of orgasm.

Paraphilia - to achieve sexual satisfaction with unusual or culturally inappropriate incentives; usually this term is used as a synonym for sexual deviancy deviation.

Pedophilia - orientation of sexual attraction to children.

Petting - deliberate evocation of orgasm by artificial excitation of the erogenous zones in a bilateral sexual contacts that precluding direct contact of the genitals. Can be

superficial (stimulation of erogenous zones, usually naked, and genitals - only through clothing), deep, homo- and heterosexual, active and passive.

Perversion - a perversion, a pathological deviation from the norm.

Range of acceptability - a set of sexual activities with intimacy (as in coitus, and in sexual foreplay) without generating a partner of negative emotional response (choice of partners, sexual positions, oral contacts and so on).

Sadism - sexual pleasure by inflicting suffering or humiliation of a sexual partner.

Satiriazis - increased libido (hypersexuality) in men.

Sex civil (**passport**) - officially registered; determined at birth and is derived directly from the morphological sex.

Sex education - sex, in raising a child in the family (the choice of clothes, hairstyles and games to the application of penalties for non-conformal sexual behavior); determined civil sexual orientation. Participates in the formation of sexual identity and choice of sexual role.

Sex gonadal (**true**) - identified by basic parameters of sex - histological structure of the gonads.

Sex hormone - is determined by gonadal sex; manifested ability of gonads to secrete specific hormones.

Sex morphological (**somatic**) - sex, defined by structure of external and internal genitals; determined by the level and the dominant direction of hormonal influences.

Sexual coldness (**frigidity**) - weakening of sexual desire or sexual excitability. The term is exclusively used in relation to persons of the female sex.

Sexual desire (**libido**) - desire for sexual actions.

Sexual deviation - not related to disease states deviations from the standard (in the framework of the ethnic culture) forms of sexual behavior.

Sexual frustration - unfulfilled sexual arousal. Sexual identity - the ability to recognize himself as a representative of a particular sex, and adjust their behavior in accordance with the social moral and ethical requirements.

Sexual role - model of social behavior, a specific set of requirements and expectations imposed by society to individuals, male or female.

Sex-role preferences - prefer a male or female role or some of its aspects. Sexual activity - characteristic of the frequency of sexual actions (in men characterized by the number of ejaculations, sexual acts, or other, in particular surrogate, forms of sexual satisfaction, such as masturbation).

Sodomy (**homosexuality**, **male homosexuality**) - usually a substantial overlap between in a narrower sense to refer to anal intercourse between adult men and boys.

Stigma - literally: the spot, mark, sign flesh; in a figurative sense - an indelible stain of shame and condemnation; psycho-social discrimination of some categories of people.

Pollution - involuntary ejaculation not associated with sexual intercourse; occurs mostly during sleep.

Promiscuous - being casual and indiscriminate about having sex play with partners (often considered offensive).

Pseudoimpotence - doubts about the state of his genitals in men generated by misconceptions about normal sexual manifestations, if he has no deviations.

Transvestism - to achieve sexual satisfaction by dressing in clothes of the opposite sex.

Transsexualism - belief in the “wrongness” of their biological sex, desire to belong to the opposite sex. Accompanied by the desire for a sex change (surgically) and simulate the behavior of the opposite (desired) sex.

Phallus - a symbolic image of the erect penis.

Zoophilia - sex with animals.