CARE OF MALE AND FEMALE CLIENTS WITH GENERAL AND SPECIFIC PROBLEMS IN REPRODUCTION AND SEXUALITY

I. SEXUAL DYSFUNCTION

- Difficulty experienced by individual or couple during any stage of normal sexual activity, including physical pleasure, desire, preference, arousal, or orgasm.
- Sexual dysfunctions can have profound impact on individual's perceived quality of sexual life.

A. SEXUAL DESIRE DISORDERS

- Or decreased ***"Libido"*** are characterized by lack or absence, for some period of time, of sexual desire or libido for sexual activity.
- The causes vary considerably, but include a possible decrease in the production of normal estrogen in women or testosterone in both men and women.
- Other causes may be aging, fatigue, pregnancy, medications, or psychiatric conditions, such as depression and anxiety.

B. SEXUAL AROUSAL DISORDERS

- Previously known as ***frigidity*** in women and ***impotence*** in men, though these have now been replaced with less judgmental terms.
- Impotence is now known as ***erectile dysfunction***, and frigidity has been replaced with a number of terms describing specific problems that can be broken down into four categories: ***lack of desire, lack of arousal, pain during intercourse,*** and ***lack of orgasm***.

1. ERECTILE DYSFUNCTION (ED)

- Or **Impotence** is a sexual dysfunction characterized by the inability to develop or maintain an erection of the penis.

Causes

Psychological erectile dysfunction

- Can be helped by anything that patient believes in; there is very strong *'placebo'* effect.

Physical damage is much more severe.

- Continual or severe damage to the ***Nervi Erigentes*** which prevents or delays erection.
- Diabetes as well as cardiovascular diseases simply decreases blood flow to the tissue in penis. Multiple sclerosis, kidney failure, vascular disease and spinal cord injury are the other source of erectile dysfunction, many of which are medically reversible.
- The introduction of the first pharmacologically effective remedy for impotence, Sildenafil (**Viagra**), in the 1990s caused a wave of public attention, propelled in part by the news-worthiness of stories and heavy advertising.

2. PREMATURE EJACULATION

- Premature ejaculation is when ejaculation occurs before the partner achieves orgasm (<2 minutes from the time of the insertion of the penis), or a mutually satisfactory length of time has passed during intercourse.
- ***Diagnosis*** – Chronic history of premature ejaculation, poor ejaculatory control, and problem must cause feelings of dissatisfaction as well as distress the patient, the partner or both.

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3. **ORGASM DISORDERS**

   – Orgasm disorders, specifically ***anorgasmia***, present as persistent delays or absence of orgasm following a normal sexual excitement phase in sexual encounters.

   – The disorder can have physical, psychological, or pharmacological origins.
      - ***Pharmacological*** – Antidepressants can delay orgasm or eliminate it entirely.
      - ***Physiological*** – Orgasm problems during sexual stimulation following menopause.

4. **SEXUAL PAIN DISORDERS**

   Dyspareunia (painful intercourse) may be caused by insufficient lubrication in women.
      - Poor lubrication may result from insufficient excitement and stimulation, or from hormonal changes caused by menopause, pregnancy, or breastfeeding.
      - Irritation from contraceptive creams and foams can also cause dryness, as can fear and anxiety about sex.

   Vaginismus (involuntary spasm of the vaginal wall muscles)
      - Cause is unclear, but it is thought that past sexual trauma (rape, abuse) may play a role.

   Vulvodynia or **Vulvar Vestibulitis** – The cause is unknown.
      - Burning pain during sex related to problems with the skin in the vulvar and vaginal areas.

5. **POST-ORGASMIC DISEASES –** cause symptoms shortly after orgasm or ejaculation.

   Post-Coital Tristesse (PCT)
      - Feeling of melancholy and anxiety after sexual intercourse that lasts for up to two hours.

   Sexual Headaches
      - Occur in skull & neck during sexual activity, including masturbation, arousal or orgasm.

   Post-orgasmic Illness Syndrome (POIS)
      - In men, it causes severe muscle pain throughout the body and other symptoms immediately following ejaculation.
      - ***Symptoms*** – rapid breathing, paraesthesia (tingling or pricking hands "pins and needles"), palpitations, headaches, aphasia (loss of ability to understand or express speech), nausea, itchy eyes, fever, muscle pain and weakness and fatigue.

   Dhat Syndrome "Culture-Bound Syndrome"
      - In men, it causes anxious and dysphoric mood after sex, but is distinct from the low-mood and concentration problems (acute aphasia).

   – From the onset of orgasm, symptoms can persist for up to a week in patients.

   – Etiology is unknown, it is believed to be a pathology of either immune system or the ANS.

   – There is no known cure or treatment.

6. **PELVIC FLOOR DYSFUNCTION**

   – Underlying cause of sexual dysfunction in both women and men, treatable by physical therapy.

CAUSES

Emotional

– Interpersonal or psychological problems, which can be the result of depression, sexual fears or guilt, past sexual trauma, and sexual disorders.

Physical

– Use of drugs, such as alcohol, nicotine, narcotics, stimulants, anti-hypertensives, antihistamines, and some psychotherapeutic drugs.
– Physiological changes in women that affects the reproductive system; premenstrual syndrome, pregnancy and the postpartum period, and menopause can have an adverse effect on libido.
– Injuries to the back may also impact sexual activity, as can problems with an enlarged prostate gland, problems with blood supply, or nerve damage.
– Diseases

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- Hormonal deficiencies
- Some birth defects
- In aging women, it is natural for the vagina to narrow and become atrophied.

TREATMENT

Males

- ***Psychotherapy*** – If sexual dysfunction is deemed to have psychological component or cause.
- ***Lifestyle changes*** – discontinuing smoking, drug or alcohol abuse.
- ***Medications*** – Viagra, Cialis and Levitra have become first line therapy.
- ***Intracavernous Pharmacotherapy*** – involves injecting vasodilator drug directly into the penis in order to stimulate an erection.
- ***Penile Prosthesis*** – When conservative therapies fail, insert penile prosthesis or penile implant

Females

- ***Medications*** – Flibanserin, pain relievers, desensitizing agents, vaginal lubricants
- ***Psychotherapy*** – counselor or sex therapist.
- ***Alternative treatments*** – topical estrogen creams and gels can be applied to the vulva or vagina area to treat vaginal dryness and atrophy

II. INFERTILITY

- According to WHO, infertility is "a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (and there is no other reason, such as breastfeeding or postpartum amenorrhea).
- **Primary Infertility** is infertility in a couple who have never had a child.
  - The absence of a live birth for women who desire a child and have been in a union for at least 12 months, during which they have not used any contraceptives.
  - WHO also adds that 'women whose pregnancy spontaneously miscarries, or whose pregnancy results in a still born child, without ever having had a live birth would present with primarily infertility'.
- **Secondary Infertility** is failure to conceive following a previous pregnancy.
  - The absence of a live birth for women who desire a child and have been in a union for at least 12 months since their last live birth, during which they did not use any contraceptives.
- Infertility may be caused by infection in the man or woman, but often there is no obvious underlying cause.

EFFECTS

Psychological

- Infertility consequences are manifold, can include societal repercussions and personal suffering.
- Partners may become more anxious to conceive, increasing sexual dysfunction.
- Marital discord often develops, especially when under pressure to make medical decisions.
- Women trying to conceive often have depression rates similar to women who have CVD or CA.
- Emotional stress and marital difficulties are greater in couples where infertility lies with the man

Social

- In many cultures, inability to conceive bears a stigma.
- In closed social groups, a degree of rejection (or a sense of being rejected by the couple) may cause considerable anxiety and disappointment.

CAUSES

Immune Infertility

- Antisperm Antibody (ASA) have been considered as infertility cause in around 10–30% of infertile couples.

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- In both men and women, ASA production are directed against surface antigens on sperm, which can interfere with sperm motility and transport through the female reproductive tract, inhibiting capacitation and acrosome reaction, impaired fertilization, influence on the implantation process, and impaired growth and development of the embryo.
- ***Factors*** contributing to ASA formation in ***women*** are disturbance of normal immune-regulatory mechanisms, infection, violation of the integrity of the mucous membranes, rape and unprotected oral or anal sex.
- ***Risk factors*** for ASA formation in men include the breakdown of the blood-testis barrier, trauma and surgery, orchitis, varicocele, infections, prostatitis, testicular cancer, failure of immune-suppression and unprotected receptive anal or oral sex with men.

Sexually Transmitted Infections

- Chlamidia Trachomatis and Neisseria Gonrrheae can also cause infertility, due to internal scarring (fallopian tube obstruction).
- There is a consistent association of Mycoplasm Genitalium infection associated with increased risk of infertility, and female reproductive tract syndromes.

Genetic

- Mutations to gene encoding have been found in a small subset of men with non-obstructive male factor infertility where the cause is unknown.
- Affected individuals displayed more severe forms of infertility such as azoospermia and severe oligozoospermia.

OTHER CAUSES

Factors that can cause male as well as female infertility are:

DNA Damage

- Reduces fertility in female oocytes, as caused by smoking, other xenobiotic DNA damaging agents (such as radiation or chemotherapy), or accumulation of the oxidative DNA damage 8-hydroxy-deoxyguanosine.
- Reduces fertility in male sperm, as caused by oxidative DNA damage, smoking, other xenobiotic DNA damaging agents (such as drugs or chemotherapy) or other DNA damaging agents including reactive oxygen species, fever or high testicular temperature. The damaged DNA related to infertility manifests itself by the increased susceptibility to denaturation inducible by heat or acid.

General Factors

- Diabetes Mellitus, thyroid disorders, undiagnosed and untreated coeliac disease, adrenal disease.

Hypothalamic-Pituitary Factors

- Hyperprolactinemia
- Hypopituitarism
- Presence of anti-thyroid antibodies is associated with increased risk of unexplained subfertility.

Environmental Factors

- Toxins such as glue, volatile organic solvents or silicones, physical agents, chemical dusts, and pesticides. Tobacco smokers are 60% more likely to be infertile than non-smokers.

Alimentary Habits

- ***Obesity*** can have a significant impact on male and female fertility.
  - BMI may be a significant factor in fertility, as an increase in BMI in the male by as little as three units can be associated with infertility.
  - Increase in BMI is correlated with a decrease in sperm concentration, a decrease in motility and an increase DNA damage in sperm.
- ***Low weight***
  - Underweight men tend to have lower sperm concentrations than those with normal BMI.
  - Underweight women, and having extremely low amounts of body fat are associated with ovarian dysfunction and infertility and they have higher risk for preterm birth.

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FEMALE INFERTILITY

- ***Blockage of the Fallopian tube*** due to malformations, infections such as chlamydia or scar tissue.
  - *Endometriosis* can cause infertility with the growth of endometrial tissue in the Fallopian tubes or around the ovaries.
  - More common in mid-twenties and older, especially when postponed childbirth has taken place.
- ***Inability to ovulate***. Malformation of the eggs themselves may complicate conception.
  - *Polycystic Ovarian Syndrome (PCOS)* is when eggs only partially develop within the ovary and there is an excess of male hormones.
  - Some women are infertile because their ovaries do not mature and release eggs. In this case synthetic FSH by injection or Clomid (Clomiphene citrate) via a pill can be given to stimulate follicles to mature in the ovaries.
- ***Other factors***
  - Advanced maternal age – fertility declines after the age of 30.
  - Pelvic inflammatory disease caused by infections like tuberculosis.
  - Previous surgery (tubal ligation)

MALE INFERTILITY

- ***Low sperm count*** due to endocrine problems, drugs, radiation, or infection.
  - There may be testicular malformations, hormone imbalance, or blockage of man's duct system.
- ***Viable***, ***but Immotile Sperm*** may be caused by ***Primary Ciliary Dyskinesia*** (PCD).
  - Sperm must provide zygote with DNA, centrioles, and activation factor for embryo to develop.
  - A defect in any of these sperm structures may result in infertility that will not be detected by semen analysis.
  - ASA cause immune infertility.
  - Cystic Fibrosis can lead to infertility in men.

UNEXPLAINED INFERTILITY

- In these cases abnormalities are likely to be present but not detected by current methods.
- Possible problems could be that the egg is not released at the optimum time for fertilization that it may not enter the fallopian tube, sperm may not be able to reach the egg, fertilization may fail to occur, transport of the zygote may be disturbed, or implantation fails.
- It is increasingly recognized that egg quality is of critical importance and women of advanced maternal age have eggs of reduced capacity for normal and successful fertilization.

DIAGNOSIS

- If both partners are young and healthy, and have not succeed conceiving for one year, a physician visit could help to highlight early potential medical problems.
- Women over the age of 35 should see the physician after six months as fertility tests can take some time to complete, and age may affect the treatment options that are open in that case.
  - Doctor takes a medical history and gives a physical examination.
  - Can also carry out some basic tests on both partners to see if there is identifiable reason for not having achieved pregnancy.
- If necessary, refer patients to fertility clinic or local hospital for more specialized tests. The results of these tests help determine the best fertility treatment.

TREATMENT

Grouped as medical or complementary and alternative treatments. Some methods may be used in concert with other methods.

1. **Medical Treatments medical device, surgery**, or **combination** of the following:
   a. ***Fertility Medication***. Drugs used for both women and men include:
      - Clomiphene Citrate

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- Human Menopausal Gonadotropin (hMG)
- Follicle-Stimulating Hormone (FSH)
- Human Chorionic Gonadotropin (hCG)
- Gonadotropin-Releasing Hormone (GnRH)
- Analogues, Aromatase, and Metformin

b. If sperm are of good quality and mechanics of the woman's reproductive structures are good (patent fallopian tubes, no adhesions or scarring), a course of ***ovulation induction*** maybe used.

c. ***Conception cap (cervical cap)*** – placing sperm inside the cap and putting the conception device on the cervix.

d. ***Intrauterine Insemination (IUI)*** – MD introduces sperm into uterus during ovulation, via catheter.

If conservative medical treatments fail to achieve full term pregnancy, the physician may suggest:

a. ***Assisted Reproductive Technology (ART***) – techniques.
   1) Start with stimulating the ovaries to increase egg production.
   2) After stimulation, the physician surgically extracts 1 or more eggs from the ovary, and unites them with sperm in laboratory setting, with the intent of producing 1 or more embryos.
   3) Fertilization takes place outside the body, and the fertilized egg is reinserted into the woman's reproductive tract, in a procedure called *embryo transfer*.
   - ***In Vitro Fertilization (IVF) –*** most commonly used ART. Proven useful in overcoming infertility conditions, such as blocked or damaged tubes, endometriosis, repeated IUI failure, unexplained infertility, poor ovarian reserve, poor or even nil sperm count.
   - ***Intracytoplasmic Sperm Injection (ICSI) –*** used in poor semen quality, low sperm count, failed fertilization attempts during prior IVF cycles. Involves injection of single healthy sperm directly injected into mature egg. Fertilized embryo is then transferred to womb.

b. ***Tuboplasty***

2. **Fertility Tourism / Medical Tourism**
   – Practice of traveling to another country for fertility treatments.
   – Main reasons for fertility tourism are legal regulation of sought procedure in the home country, or lower price. IVF and donor insemination are major procedures involved.

3. **Stem Cell Therapy**

Spermatogonial Stem Cells Transplant: it takes places in the seminiferous tubule.
– With this treatment, the patient experience spermatogenesis, and therefore, it has the chance to have offspring if he wants to.
– It is specially oriented for cancer patients, whose sperm is destroyed due to the gonadotoxic treatment they are submitted to.

Ovarian Stem Cells: it is thought that women have finite number of follicles from very beginning.
– Nevertheless, scientists have found these stem cells, which may generate new oocytes in postnatal conditions.

Stem cell therapy is new, and everything is still under investigation. Additionally, it could be the future for the treatment of multiple diseases, including infertility.

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