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19.1 Epidemiology

It is estimated that male factor infertility is the main or a contributing cause of infertility in half of involuntarily childless couples [1].

Infertility is an emotional crisis and a physical challenge because it interferes with one of the most fundamental human activities. From a list of 87 items of stressful life events, infertility has been ranked as one of the most stressful situations similar to the death of a spouse or of a close relative [2].

This stressful condition frequently causes diminished sexual desire as a side effect of feelings of sexual unattractiveness, guilt, shame, depression and anger or can be the consequence of the stress and demands infertility places on the marriage, social relationships, work life and financial resources. Infertility frequently triggers feelings of failure, sexual inadequacy, diminished masculinity and altered sense of self, and all are contributory factors in male sexual dysfunction. Many men develop performance anxiety; sexual avoidance especially if sex is for “procreation purpose only” and the female partners have become sexually irresponsive and passive.

Sexual dysfunction is more openly discussed than in the past, but still only a fraction of the men with these problems seek medical care [3].

After sexual desire disorder the most common sexual problem is erectile failure in 5–10 % of the general male population, 4–10 % inhibited male orgasm in 35 % premature ejaculation [4].

The relationship between sexual dysfunctions and infertility can be mutual. Sexual dysfunction may cause difficulty conceiving but also attempts to conceive may cause sexual dysfunctions.

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19.2 Sexual Dysfunction Causing Infertility

For a small percentage of infertile couples, male sexual problems are the main cause of infertility [5]. For others it could be a relative cause: If a couple cannot or does not have sex near ovulation time, the woman is less likely to get pregnant. If they have sex once in a while because of low sexual desire or pain during sex, they may miss that important time for pregnancy.

19.3 Erectile Dysfunction

It is traditionally referred to as impotence, and the NIH consensus conference has defined erectile dysfunction (ED) as the inability to achieve or maintain an erection adequate for sexual intercourse. Primary erectile failure is never having had the ability to achieve and/or maintain an erection sufficient for vaginal penetration or successful coitus. This condition is very rare but, when it does occur, is a direct cause of infertility. Treatment success rates for primary erectile dysfunction are the lowest among all sexual disorders in men and women.

Secondary erectile dysfunction is partial or weak erections, total absence of an erection or the inability to sustain erections long enough for vaginal penetration or sexual intercourse. Most men experience some form of episodic, transient erectile dysfunction at some point of their lifetime, especially when they age, although it affects men of all ages [6]. Years ago it was believed that the main cause of erectile dysfunctions was due to psychological factors, but nowadays it is believed that at least 50 % of erectile dysfunction problems are due to organic aetiology [7].

The pathophysiology of erectile dysfunction may be vascular, neurogenic, hormonal, anatomical, drug induced or psychogenic [6].

Erectile dysfunction is the most important cause of male factor infertility due to sexual dysfunction, although men rarely disclose this problem to caregivers [8]. In one study, 10 % of men were observed to experience sexual dysfunction of a psychogenic nature in response to the diagnosis of infertility [9].

The introduction of new oral therapies has completely changed the diagnostic and therapeutic approach to ED, and the current availability of effective and safe drugs for ED has resulted in an increasing number of men seeking help for ED. These patients may benefit from a prescription of a PDE-5 inhibitor. Neither sildenafil nor tadalafil has an adverse effect on sperm function or ejaculate quality [10, 11].

Patients who complain of difficulty with ejaculation and climax may be taking psychotherapeutic agents that block dopamine production and consequently blunt the hypothalamic-pituitary axis and possibly decrease libido. Other psychotherapeutic drugs can decrease vasodilation and worsen the quality of erections.

When ED is determined to be organic and not reversible (in case of injury or disease), treatment could involve intracavernous injection or surgical interventions such as penile prostheses [12]. Psychological treatments include decreasing performance anxiety, increasing awareness of erotic sensations and disputing irrational belief and myths.

19.4 Premature Ejaculation

Premature ejaculation (PE) is an extremely common condition. Kinsey, in his landmark report, had stated that it affects as many as 70 % of all men. PE is characterized by a lack of voluntary control over ejaculation. Many men occasionally ejaculate sooner than they or their partner would like during sexual activities. PE is a frustrating problem that can reduce the enjoyment of sex, harm relationships and affect quality of life. When it comes to conception, there are two things that must happen – intercourse with vaginal penetration and ejaculation. When the latter happens first, it will impact fertility, but only in those rare cases in which ejaculation happens before the introduction of the penis in the vagina. PE is usually not situational; it occurs with all partners because the men have not learned to voluntarily control his ejaculatory reflexes [13]. Although the exact cause of premature ejaculation (PE) is not known, new studies suggest that serotonin, a natural substance produced by nerves, is important [14].

A breakdown of the actions of serotonin in the brain may be a cause. Studies have found that high amounts of serotonin in the brain slow the time to ejaculation, while low amounts of serotonin can produce a condition like PE.

Psychological factors also commonly contribute to PE. Temporary depression, stress, unrealistic expectations about performance, a history of sexual repression or an overall lack of confidence can cause PE. Interpersonal dynamics may contribute to sexual function. PE can be caused by a lack of communication between partners, hurt feelings or unresolved conflicts that interfere with the ability to achieve emotional intimacy. These psychological factors may be related to infertility with its emphasis on sex for procreation.

There are several treatment choices for premature ejaculation: psychological therapy, behavioural therapy and medications [15].

19.5 Inhibited or Delayed Ejaculation

Inhibited or delayed ejaculation (also called retarded ejaculation) is the persistent and recurrent inhibition of orgasm, manifested by delay or absence of ejaculation following adequate sexual stimulation; the most frequent physical situation which interferes with ejaculation is spinal cord injury; researchers report that ejaculation occurs in up to 70 % of men with incomplete lower-level injuries and in as many as 17 % of men with complete lower-level injuries. Ejaculation occurs in about 30 % of men with incomplete upper-level injuries and almost never in men with complete upper-level injuries [16].

These conditions prevent men from ejaculating during sexual intercourse even though they can often ejaculate normally through masturbation. The causes could be psychological and physical; psychological anejaculation is usually anorgasmic and it could be situational or total. Situational means that men can ejaculate in some conditions or situation but not in others. It also can occur in stressful situations, as when a man is asked to collect a sperm sample in an infertility

laboratory. Recently, delayed ejaculation has been identified as a common side effect of some antidepressant medications [17].

Treatments depend on the cause and include psychosexual counselling and drugs as ephedrine and imipramine. When delayed ejaculation affects fertility, vibrator or electroejaculation (a procedure in which ejaculation is stimulated by low electrical current) or surgical retrieval of sperm directly from the testis can be used to obtain sperm for insemination or used in IVF [18].

19.6 Infertility as a Cause of Sexual Dysfunction

Infertility can negatively influence both the pleasure of sex and sexual function. In many couples, sexuality has already been compromised before infertility treatment because of the failure to conceive and the subsequent medical interventions [19]. The invasion of the couple's physical and emotional privacy during fertility treatments can further reduce sexual desire in both partners and damage the relationship [20].

Men are sensitive of the stress of infertility techniques as intrauterine insemination (IUI) and in vitro fertilization (IVF); this can be due to a diminished sense of male self-esteem. It has also been shown that the emotional stress of the men enrolled in the IVF programmes can negatively affect the quality of semen [21]. Moreover, the “super stress” of the moment, “this is the night” syndrome and the necessity to perform can deteriorate sexual performance and cause erectile failure. Some procedures such as the post-coital test are particularly involved in the impairment of sexual functioning [22].

When infertility results in relationship disturbances and sexual problems, the intervention of a caregiver is paramount. All too often the sexual problems of infertile couples are ignored and minimized in a belief that they will dissipate on their own or will have a few long-term consequences. Unfortunately these beliefs are not true: although some sexual problems may disappear when the pressures of infertility treatment end, sexual difficulties typically linger or become more problematic after treatment ends or parenthood is achieved [23]. Professional attention and care regarding sexual disturbances during infertility can lower the impact, and education can prevent many of the sexual difficulties infertile couples encounter. The European Society of Human Reproduction and Embryology (ESHRE) has set up specific guidelines in order to provide a framework for counselling in infertility being aware that sexual counselling is dependent upon the legal, ethical and cultural background of every country [24].

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