

Impact of Covid 19 Pandemic on Female Sexual Desire

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Abstract

Background: Corona Virus disease 2019 (COVID-19) epidemiology and quarantine have an influence on female sexual health and function. Sexual intercourse frequency decreases. The pandemic is connected with a decline in sexual life quality, sexual desire and intercourse frequency decrease during closure. In addition, the pandemic has an effect on the decline in desire for conception, the decline in female contraception, and the rise in menstruation diseases. In addition, the COVID19 pandemic leads to an enormous rise in stress and anxiety levels, as well as a considerable reduction in interpersonal contact. Typically, major disasters result in widespread sexual dysfunction and diminished sexual life pleasure. This may indicate that when an issue affects everyone similarly and may have future ramifications, its influence on sexual elements is relatively unfavorable. The Female Sexual Function Index (FSFI) is one of the most widely utilized scales for assessing sex life and is regarded the "gold standard." It evaluates several facets of sexuality. Performing the questionnaire twice provides the opportunity to examine the influence of certain circumstances on sexual life. Due to medical advancements, it is vital to identify sexual dysfunctions in women, who, if left untreated, are connected with a greater risk of melancholy, anxiety, and worse life quality. This article aimed to explain COVID-19 Pandemic impact on Egyptian female sexual life.

Keywords: Covid 19; Female Sexual Desire and Impact.

COVID-19 pandemic

Coronaviruses are a kind of RNA virus that infects the respiratory passages of animals and birds, causing symptoms like the common cold, fever, and coughing. In rare instances, coronaviruses are linked to more severe and fatal diseases, such as pneumonia, bronchitis, and severe acute respiratory syndrome [1].

Initially, the World Health Organization (WHO) referred to the virus as "new coronavirus 2019." (2019-nCoV). Later, the international committee of the Coronavirus Study Group (CSG) referred to it as "severe acute respiratory syndrome coronavirus 2" (SARS-CoV-2) and WHO referred to it as COVID19 [2].

Sexual Health

Concurrent stress and worry associated with COVID-19 may cause mood changes, sadness, or a reduction in sexual drive. Nevertheless, several couples spend more time together than normal owing to remote working. Thus, it appears that the influence of COVID-19 is significant to sexual health [3].

Li et al. have proven that COVID19 has a substantial influence on sexual health, as evidenced by a reduction in sexual desire and sexual activity frequency. In addition, The impact of the pandemic on stress was investigated by another study and found that 15% of persons had elevated stress levels as a result of the COVID19 pandemic. In addition,

the COVID19 pandemic generated a huge rise in stress and anxiety, as well as a considerable decrease in sexual activity, which was mostly the result of isolation and a lack of desire brought on by stress [3].

Hall et al. studied the influence of stress symptoms on the sexual health of 992 young women (ages 18 to 20) with stress symptoms. This research found a correlation between depressive symptoms and sexual activity intensity [4].

COVID19 pandemic influence on sexual behavior of women

The phrase "sexual conduct" embraces a broad range of behaviors. Recent studies have examined the impact of catastrophic events on female sexual behavior. After Hurricane Katrina, it was stated that birth control and genital hygiene decreased. Following the Wenchuan earthquake, the frequency of sexual activity, the level of happiness with sexual life, and the desire to have children among women declined. In addition, between 10 and 35 percent of women in war zones were reportedly affected by menstruation irregularities.

In comparison, the impact of stressful lives on sexual behavior was studied, and it was shown that women engage in much more sexual activity during extremely stressful than less stressful periods (43% vs 35%, P-value less than 0.001) [1].

Female Sexuality

Sexuality is a vital aspect of women's lives and one of the most influential determinants of mental health. It has a substantial effect on the linkages between languages and the well-being of humans. Positive aspects of a healthy sexual life are relieving sexual tension, enjoying pleasure, and demonstrating emotional connection. Several internal and external factors, including hormones, anatomy, and emotions, control human sexuality [5].

The FSFI is recognized as the "gold standard" for assessing sexual functioning, as it is one of the most often used scales. It assesses several sexuality-related factors [3].

Physiology of Women's Sexual Function

Reasons for Female Sexual Excitation and Orgasm When examining the physiological grounds of arousal and orgasm, it is crucial to emphasize how challenging it is to obtain a thorough description of FSA; in the literature, this is largely dependent on what is deemed dysfunctional [6].

It is essential to emphasize that physiologic changes do not necessarily result in sexual dysfunction (SD) in women, whereas sexual disorders can emerge despite a seemingly normal sexual physiology. It has been suggested that the FSA should be separated into objective (genital and "extra-genital") and subjective components. Genital sexual arousal is a combination of objective and subjective signals, including the biological reactions of vulvar enlargement, vaginal lubrication, heavy breathing, and increased genital responsiveness, in addition to the subjective feelings of pleasure and excitement [7].

Orgasm, on the other hand, is defined as a variable, temporary peak sensation of pure pleasure, producing an altered state of consciousness, typically preceded by unconscious, contractile activity of the pelvic striated circumvaginal musculature, with

concurrent uterine and anal cramps and myotonia that settles the sexually stimulated Vaso congestion, and typically inducing feelings of well-being and satisfaction.

A neural network that responds to hormones controls women's sexual behavior. Sexual behavior is a set of complicated activities that comprise the desire to find a mate, appraisal of relevant inputs, muscular execution of the activity, and physiological processes that reward the behavior so that it is repeated. Numerous brain areas are necessary for every component of behavior, with a number of crucial nodes required for information gate regulation in order to produce a functioning behavioral output [8].

Centrally based Physiology of Women's Sexual Function

There is substantial evidence that the cerebral cortex governs human sexual behavior, but the mechanisms of the CNS that control female sexual behavior in humans are largely unknown. Consequently, the majority of descriptions are derived from neurophysiological studies on rats; for example, lordosis has served as an essential animal model for brain regulation of female sexual activity. Since taxonomic variations in the functional neuroanatomy of pair bonding in primates and non-primates have been discovered, it is still debatable whether rodents should serve as models for all aspects of female sexual behavior [9].

The four-phase sexual response model

Masters and Johnson created a four-phase model to explain the typical sexual response, which consists of stimulation, plateau, orgasm, and resolution. Both male and female sexual responses begin with the desire phase, which is mediated by a balance between the dopamine-sensitive excitation center and serotonin-sensitive inhibition center in the brain [10].

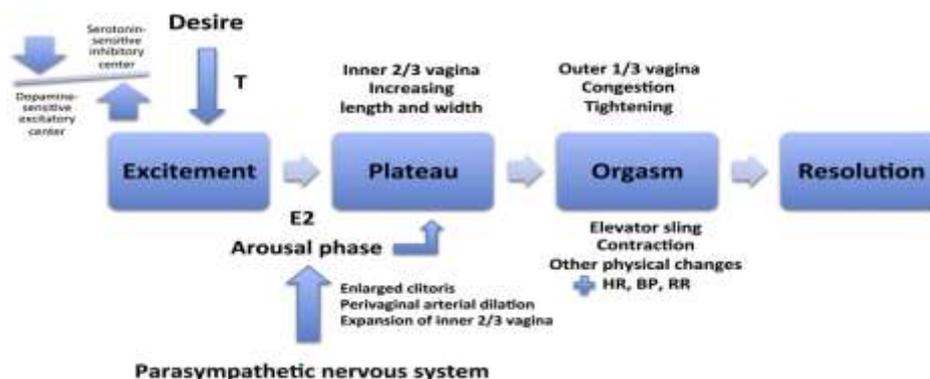


Fig (1): The four-phase sexual response model [11].

Female Sexual Dysfunction

Sexual dysfunction is characterized by one or more phases of the sexual response cycle or discomfort associated with sexual involvement. Female sexual dysfunction (FSD) is associated with four DSM-5 disorders: female sexual interest/arousal disorder, female sexual arousal disorder, and female sexual interest disorder (FSID). Female orgasmic disorder, genito-pelvic pain/penetration disorder (vaginismus and dyspareunia), and substance/medication-induced sexual dysfunction were studied [12].

Persistence of dysfunction and considerable suffering are required for diagnosis, since dysfunction does not necessitate investigation or therapy in the absence of distress. Several diagnoses in a single patient are a regular occurrence in clinical practice.

Female sexual dysfunction measured by female sexual function index (FSFI).

FSFI is regarded as the "gold standard" for assessing sexual functioning. It investigates many elements of sexuality. FSFI is a widely recognized indicator of FSD. The evaluation of desire, arousal, lubrication, orgasm, pleasure, and pain [13].

1-Hypoactive Sexual Desire Disorder (HSDD)

Sexual symptoms are common, with an estimated frequency of 22–43 percent among women worldwide and 14 percent of women aged 45–64 suffering at least one sexual issue accompanied by intense pain. The most common form of FSD is a chronic lack of sexual desire, which has a significant influence on the quality of life of young women [14].

Female sexual interest / arousal disorder (FSIAD) has proved to be very contentious among doctors and sexual medicine specialists, mostly owing to the lack of empirical evidence for the new diagnostic categories and the implications for treatment and management. Therefore, subsequent international expert panels, the International Consultation in Sexual Medicine and the International Society of Women's Sexual Health (ISSWSH) Nomenclature Committee, reinstated the label of HSDD, emphasizing the two faces of female desire in the diagnostic criteria: decreased/absent spontaneous desire (i.e., sexual thoughts or fantasies), or decreased/absent responsive desire to erotic cues or stimulation, or inability to maintain desire or intemperance.

2-Female Arousal Disorder

Concerning arousal disorders, the ISSWSH has recently proposed a further revision of the DSM 5 nomenclature that would separate FGAD and FCAD into a new category defined as the distressing difficulty or inability to attain or maintain adequate mental excitement during sexual activity for at least six months. FGAD is defined by the distressing difficulty or inability to acquire or sustain appropriate genital response, including vulvovaginal lubrication, genital engorgement, and genital sensitivity during sexual engagement, with vascular or neurologic damage or malfunction diagnosed as the reason.

This version seeks to identify the subtypes of arousal in an effort to better diagnostic and treatment methods, with a focus on the importance of organic causes of low arousal. Over the last decade, men and women have hypothesized that genital arousal problems may be related with poor hemodynamic responses due to cardiometabolic-associated endothelial function abnormalities. Despite the fact that the microanatomy and biochemistry of the male and female peripheral arousal response are comparable, erectile dysfunction is frequently viewed as a predictor of cardiovascular disease; however, the significance of genital vascular impairment in the pathogenesis of FSD remains unknown. This relationship seems to be weaker among women than among men [15].

It has been suggested that this gender disparity may be due not (or not only) to actual differences in cardiovascular and sexual pathophysiology, but also to historically different attitudes toward male and female sexuality, which led to the development of insufficient methodologic instruments for assessing cardiovascular risk in patients with FSD. Additional risk factors for FGAD include diseases of the central and peripheral nervous systems (such as multiple sclerosis, pudendal neuropathy, and sacral or lumbar spinal pathology), anatomical abnormalities caused by pelvic irradiation and/or surgery, and endocrine alterations [16].

3-Female Orgasmic Disorder

Orgasmic dysfunction in women is characterized by abnormalities in orgasmic frequency, intensity, timing, and/or pleasure that are permanent or recurring. Numerous psychological personal and relational problems may result in inadequate excitatory or elevated inhibitory sexual processes in the central nervous system, hence restricting orgasm. Women frequently report a history of trauma

or abuse, unresolved marital conflict, cultural and religious prohibitions, ineffective sexual communication, pressure to have a sexual experience, mood disorders, and male partner sexual dysfunctions that cause inadequate arousal (and/or pain), including premature ejaculation and erectile dysfunction [17].

Orgasm disorders, on the other hand, are associated with pelvic floor dysfunction; neurologic disorders affecting both the peripheral and CNS; dermatological disorders or genital gynecological; and the use of medications such as antipsychotics, SSRIs, antihypertensives, histamine 2 receptor antagonists, benzodiazepines, and anticonvulsants [18].

Orgasm dysfunction has been linked to low testosterone and estradiol levels, most likely through the same processes that govern hormone-related changes in arousal and desire [19].

4-Sexual Pain Disorders

In the previous edition of the DSM (4-TR), dyspareunia and vaginismus were identified as sexual pain disorders (recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina that interferes with sexual intercourse). They are included in the genito-pelvic pain/penetration ailment category in the most recent edition. In vaginismus, unpleasant physical and/or psychological conditions function through a vicious cycle of dread and avoidance, in which attempted penile penetration causes pain and muscular tension, resulting in increasing avoidance and a phobia of penile penetration [20].

In contrast, dyspareunia is often associated with biological problems, such as inflammation, infections, neoplastic illnesses, local trauma, neurologic abnormalities, iatrogenic trauma, and hormone deficiency. In actuality, dyspareunia is one of the most prevalent menopausal genitourinary issues (GSM) [21].

Covid-19 pandemic psychiatric effect on sexual health

The expanding coronavirus pandemic is regarded as the greatest danger to the current healthcare system. Social isolation and quarantine can create psychological and emotional issues, notwithstanding their importance as public health protection [22]. It has been established that less interpersonal contact exacerbates underlying issues and increases the frequency of despair and anxiety. In actuality, COVID-19 suspects display symptoms of isolation, denial, worry, despair,

insomnia, and depression. Several studies indicate that infected individuals are at a greater risk for violence and suicide [23].

The rapid global spread of the virus and the uncertainty of its treatment and disease prognosis induced dread, worry, and panic, especially among the elderly, health care professionals, and those with chronic conditions.

Additionally, this pandemic caused life-threatening diseases, unemployment, financial loss, family and marital separation, and unemployment. According to a research, COVID-19 increases women's psychological distress. Extreme pandemic morbidity, mortality, and lockdown measures are projected to have an influence on the mental health of the population, perhaps leading to sexual behavior alterations [24].

Typically, men with sexual problems, such as erectile dysfunction and premature ejaculation, suffer anxiety and sadness. Men with anxiety are more prone to have performance anxiety, whilst men with depression are more likely to suffer from libido loss [25].

It has been discovered that anxiety inhibits arousal and the ability to obtain orgasm. Three to ten times more likely to experience chronic dyspareunia are women who are dissatisfied or nervous [5].

Sexual transmission of the COVID-19 virus is an additional cause for concern. As the virus is abundant in upper respiratory tract secretions, sexual contact may enhance its dissemination. The International Society of Sexual Medicine issued recommendations about the safety of sexual behavior during the pandemic, stressing that quarantined couples in good health may resume sexual activity [26]. It is suggested that those with respiratory issues or immunocompromised partners refrain from sexual activity. As long as hygienic standards are fulfilled, masturbating poses no danger. A couple may explore their sexual tastes in a risk-free and fun manner by exchanging digital messages, photographs, and videos [27].

COVID-19 may thus have direct and indirect repercussions on the sexual life of many couples. Psychogenic sexual dysfunction may occur in response to a rise in the incidence of anxiety and depression. Protective measures to ensure the safety of sexual activity may induce situational anxiety, especially in those at risk for or suffering from sexual dysfunction. Particularly at times when normal psychological support measures are unavailable, the medical community must be aware of these diseases and provide appropriate therapy [28].

Numerous research have demonstrated a link between mental and sexual wellness. When a woman's sexual function is robust and enjoyable, her emotional well-being and mental health improve [29].

Sexual activity was associated with several psychological and physiological health benefits. As shown by improved pleasure, communication quality, emotional awareness and integration, reduced depression and suicide attempts, increased happiness, and decreased psychoticism, neuroticism, pain, and voiding feelings, vaginal intercourse benefits mental health [30].

Prenatal therapy requires evaluation of a pregnant woman's sexual function and mental health. In spite of the significance and frequency of sexual dysfunction, the overwhelming majority of persons do not seek therapy owing to embarrassment or an unwillingness to acknowledge it as a medical disease [31].

According to **Effati-Daryani et al.** there was a strong negative association between the total score for sexual function and stress, anxiety, and depression, indicating that all three states had a large impact on sexual performance. Mild stress, spouse occupation, sufficient household income, living with parents, more marital satisfaction, and a later gestational age had a significant, positive effect on sexual function [31].

The pandemic of COVID-19 was associated with diminished sexual satisfaction in both sexes. However, women were more prone to anxiety and depression, and therefore sexual dysfunction and sexual dissatisfaction. There are concepts for intervention strategies to alleviate the pain of people impacted, particularly after the outbreak [26].

Previous pandemics have shown that fear of infection-induced social isolation drastically inhibits sexual engagement [23]. Consumption of pornography has grown along with the epidemic [32]. Interfering with a couple's relationship, masturbation can lead to rising feelings of loneliness and breakups [33].

Effect of lockdown on female sexual life.

Sexual activity is a necessary feature of life, and sexual health is a significant indicator of life quality, which is a fundamental aspect of health [34, 35]. Sexual life can be negatively impacted by anxiety, lack of privacy, fear of health hazards, and psychosomatic symptoms resulting from confinement [36].

In several groups and places, studies evaluating the effects of lockdowns on sexual behavior have produced inconsistent findings. A study finds that young people's total sexual activity, frequency of sexual engagement, and

risky behaviors have declined significantly [37].

During lockdown, several females reported decreased feelings of pleasure, happiness, desire, and arousal. A poll reveals that the frequency of sexual activity between spouses has drastically increased since the lockdown [38].

In view of the socioeconomic ramifications of infertility, it may be essential to study the changes in sexual behavior of infertile patients throughout pregnancy. Despite this, no research indicate that infertile couples' sexual behavior changed during the COVID-19 epidemic [39].

After at least 12 months of unprotected sexual activity, infertility is defined as the inability to achieve a successful pregnancy. Infertility is a complicated source of stress, and both therapy and treatment outcomes are likely to cause mental anguish [40]. 56% of infertile individuals scored within the clinical range for depression, whereas 76% scored within the clinical range for anxiety, according to one research [41].

Infertile patients may be more vulnerable and sensitive to stress and crises. According to published statistics, infertile persons experienced psychological suffering following the cessation of reproductive care due to COVID-19 [42, 43]. A study indicated that 64% of patients had psychological suffering after therapy was discontinued; feeling helpless after treatment termination was also associated with higher distress [44]. It is expected that sexual behavior will also be altered by the psychological effects of solitary confinement [45].

During the pandemic, women who did not work saw a greater decrease in their FSFI score than those who worked from home. Those who worked outside the home had the least variation. This may indicate that the decline in FSFI in non-working women is due to a lack of physical activity and everyday fatigue [3].

Lee et al. observed that family income may influence sex life satisfaction; hence, women who work frequently are less stressed and have a stable income, which may result in a more enjoyable sex life than nonworking women. Similarly, the highest reduction was recorded among unattached women, followed by a lower decline among those in committed relationships, and the smallest decline among married women. Although relationship happiness is frequently the most important factor in determining the quality of one's sex life, the lockdown may reduce possibilities to meet new people and form new connections [46, 47].

During the COVID19 pandemic, vaginal lubrication, a vital component of female libido and one of the most pronounced aberrations in SD, dropped dramatically. Lubrication problems cause dyspareunia, vaginal discomfort, orgasm dysfunction, and an increased risk of vaginitis; thus, gynecologists should pay greater attention to these concerns during the examination [3].

According to other research, vaginal lubrication increased during the lockdown, although the increase was not statistically significant. The FSFI score decreased the greatest for women living with their parents, followed by those living alone, and then by those with a partner and a child [48].

The least variance was noticed among women who reside alone with their spouse. Despite the fact that living with parents seems to have a significant influence on intimacy and that living alone limits the probability of meeting new people, it is remarkable that households with children have a larger change in FSFI score than households without children. However, the findings were discordant when analyzing the closeness and sexual lives of parents after the birth of their first child. They highlighted the fact that newborns often consume all parental attention, resulting in a decline in parental connection and time spent together. Moreover, fear over a child's health during a pandemic is the top cause of relationship failure [49].

The majority of female patients were at risk for sexual dysfunction according to the FSFI score. The majority of women had coitus-related pain, decreased desire and lubrication, as well as difficulties with arousal, orgasm, and pleasure. Prior to the pandemic, studies demonstrated a drop in the frequency of female sexual dysfunction among Egyptian women [50]. This increasing prevalence may be a result of mental difficulties associated with the epidemic. According to the research, women's sexual function is negatively impacted by stressful conditions such as natural disasters and armed conflicts [51].

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