

Research Article

# The role of cognitive distraction in sexual dysfunction in female medical resident doctors

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## Abstract

**Introduction:** Studies have shown a high prevalence of sexual dysfunction in Medical residents. Psychological, interpersonal, and sociocultural factors play an important role in sexual vulnerability. In addition, distraction or interference in the cognitive process of the erotic stimulus plays an important role in the development of sexual dysfunction.

The aim of our study was to determine the prevalence of sexual dysfunctions among a sample of married female medical resident doctors and to explore its relation with cognitive distraction during sex.

**Subjects and methods:** This was a cross-sectional study, which was carried out in October 2017 with 70 married female medical resident doctors. We used the Female Sexual Function Index (FSFI) for sexual functioning assessment and the cognitive distraction during sex scale.

**Results:** The mean age of women was 30.52 years. They had been married for 6.04 years on the mean. The majority (74%) had children. According to the FSFI, 40% of resident doctors had sexual dysfunction. The mean cognitive distraction during sex score was 4.37.

In our study, women with female sexual dysfunction reported significantly lower sexual desire score = 3.2 vs. 4.1 and  $p = 0.03$ ) and arousal (score = 3.5 vs. 4.7 and  $p = 10^{-3}$ ), decreased lubrication (score = 3.8 vs. 5.1;  $p = 10^{-3}$ ), less sexual satisfaction (score = 3.9 vs. 5.8;  $p = 10^{-3}$ ) and higher orgasm difficulties (score = 3.4 vs. 5.1;  $p = 10^{-3}$ ). Yet, our results highlighted that women with female sexual dysfunction presented significantly more cognitive distraction during sex (score = 3.9 vs. 4.6;  $p = 0.03$ ).

**Conclusion:** According to our study, it appears that the prevalence of FSD in medical resident doctors is considerable. Besides, intrusive thoughts and cognitive distraction during sexual intercourse are importantly associated with sexual functioning. Therefore, several measures should be implemented in this population to prevent or act on these factors.

## Introduction

Historically, most research about sexuality has been conducted in the fields of neuroscience, focusing especially on physiological, endocrine, and neurophysiological aspects. In the last few decades, a growing body of research has investigated the contribution of psychological dimensions and cognitive processing to sexual function and dysfunction in women and men [1]. In fact, these factors are conceptualized as playing an important role in the development of sexual dysfunctions (SD) or difficulties [2]. Moreover, it was shown that intimate and sexual encounters with a partner can sometimes be experienced as unpleasant for women suffering from SD. Negative sexual patterns and negative cognitions or

emotions can be activated which constitute a favorable ground for the development of attentional biases such as cognitive distraction (CD) or interference [3].

The majority of international studies on CD were conducted with male samples and some research has replicated this experimental paradigm in women [1]. To date, there are no Tunisian studies, which have been carried out on CD during sexual activity.

Medical resident doctors appear to be a population at risk for psychological distress and SD due to the large workload during the medical training period. Already, a high prevalence of depression, anxiety, and stress was noted [4]. However,

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**Keywords:** Cognitive distraction; Sexual dysfunction; Female; Medical resident





their sexual function remains very little studied [4,5]. To our knowledge, there is only one published study concerning this subject in Tunisia, and there is no study in Arab countries. The aims of this study were to evaluate sexual functioning among female medical resident doctors and to investigate the relationship between CD and sexual function in this sample.

## Subjects and methods

This is a cross-sectional study carried out in October 2017. It included female resident medical doctors of different specialties working in the Hedi Chaker Hospital, Sfax, Tunisia.

**Inclusion criteria:** Women who are married for more than 6 months and are sexually active were included in our study.

**Exclusion criteria:** Residents with psychiatric or organic pathology that could impair sexual function (diabetes, cardiovascular disease, system diseases..), infertility, menopause, and those who were pregnant, nursing, or were within 2 months postpartum were excluded from the study.

We clearly explained to our participants the purpose of the work in order to obtain their consent to participate.

## Measures

Participants responded to an anonymous self-administered questionnaire.

**Sexual function:** The Female Sexual Function Index (FSFI) was used to assess sexual function. It is a 19-item self-report measure that provides scores on six domains of sexual function as well as a total score [6]. The domains assessed have been confirmed using factor analyses and include desire (two items), arousal (four items), lubrication (four items), orgasm (three items), satisfaction (three items), and pain (three items). The score for each domain is obtained by adding the scores of the corresponding items multiplied by the domain factor: 0.6 for desire, 0.3 for arousal and lubrication, and 0.4 for the other 3 domains. The total score, calculated by adding the scores of the 6 domains, varies from 2 to 36. A total score of 26.55 has been proposed as a threshold value for the diagnosis of FSD [6].

## Cognitive distraction during sexuality

We assessed cognitive distraction during sex was measured by a scale in french which has been the subject of a preliminary validation [7]. This tool includes 15 thoughts during sexual relationships, based on a six-point scale ranging from (1) never to (6) always (see appendix). The items assess distractions related to performance (6 items, e.g., "I am bothered by thoughts about my performance sex"), appearance (3 items, e.g., "I am distracted by thoughts towards the perception that my partner may have from my body"), as well as the external consequences (6 items, e.g., "I am afraid of being surprised or overheard by other people"), daily chores, contraception, and sexually transmitted diseases. Some items of this scale were inspired by Dove and Wiedermann's questionnaire on cognitive distractions (20 items) [8]. The

lower the total score, the more the person is the victim of CD during the sexual encounter.

Statistical analysis was performed using SPSS software (23<sup>rd</sup> version). Fisher's exact association test was used for the comparative study ( $p < 0.05$ ).

## Results

Seventy residents responded to our study. Nine files were excluded from the study due to missing data. Besides, there were 2 pregnant women and 2 nursing women. Finally, 50 residents were retained in this study with a response rate of 79.3%.

The age of participants ranged from 23 to 44 years, with a mean of 30.52 and a standard deviation of 5.16 years. They had been married for 6.04 years on the mean. The majority of women (74%) had children.

## Female sexual dysfunction

According to the FSFI, 40% of the participants, ( $n = 20$ ) presented FSD. The mean total score of FSFI was 26.48. The mean scores of the different dimensions of sexual function are illustrated in Table 1.

**Cognitive distraction:** In our sample, the mean CD during sex score was 4.37 (min = 1.73; max = 5.60), and the standard deviation = 0.83.

## Analytic study

In our sample, residents with FSD reported significantly lower sexual desire score = 3.2 vs. 4.1 and  $p = 0.03$ ) and arousal (score = 3.6 vs. 4.7 and  $p = 10^{-3}$ ), decreased lubrication (score = 3.8 vs. 5.1;  $p = 10^{-3}$ ), less sexual satisfaction (score = 3.9 vs. 5.8;  $p = 10^{-3}$ ), and higher orgasm difficulties (score = 3.4 vs. 5.1;  $p = 10^{-3}$ ). In addition, women with FSD presented significantly more cognitive distraction during sex than those without FSD (score = 3.9 vs. 4.6;  $p = 0.03$ ) (Table 2).

**Table 1:** Total score and sub-scores of FSFI among female medical resident doctors.

Dimensions	Mean	Minimum	Maximum	Standard deviation
Desir	3.76	1.2	6	0.94
Arousal	4.32	0.6	6	1.02
Lubrication	4.60	2	6	1.24
Orgasm	4.46	0.6	6	1.20
Sexual satisfaction	4.81	0.8	6	1.12
Pain	4.49	2	6	1.08
Total score	26.48	8	33.3	5.15

**Table 2:** Correlation between sexual dysfunction and FSFI's scores and cognitive distraction's score.

	Sexual Dysfunction	No Sexual Dysfunction	p
Desir	3.2	4.1	0.03
Arousal	3.6	4.7	< 10 <sup>-3</sup>
Lubrication	3.8	5.1	< 10 <sup>-3</sup>
Orgasm	3.4	5.1	< 10 <sup>-3</sup>
Sexual satisfaction	3.9	5.4	< 10 <sup>-3</sup>
Pain	3.6	5.0	< 10 <sup>-3</sup>
Total score	29.6	21.7	< 10 <sup>-3</sup>
Cognitive distraction	3.9	4.6	0.03



## Discussion

In our study, the prevalence of FSD among medical resident doctors was around 40%. In 2018, a similar study carried out on married Tunisian medical residents [4] found the same rate of FSD (40%). However, previous international studies presented disparate results, with FSD varying from 30% to 80% in doctors in training [9]. Several methodological factors can explain this difference; in particular, the data collection (direct questionnaire or via the internet), target population (married or single doctors, the specialties studied, .), the sample size, and the assessment tools for sexual function.

According to our study's findings, the mean scores of sexual desire, arousal, and orgasm were respectively 3.76, 4.32, and 4.46. These results were very close to those found in a recent Tunisian study among a sample of married female resident medical doctors (respective scores = 3.6; 4.5 and 4.48) [4]. In agreement with the data in the literature [4,10,11], sexual desire problem are widespread, especially among the female population [12]. According to Ferguson, et al. [9], they would lead inevitably to other sexual problems. Large population-based studies found that hypoactive sexual desire was the most common and lifelong sexual complaint and they have shown that approximately 36% to 39% of women report low sexual desire [13,14].

Although distressing low sexual desire can be attributed to several biological, psychological, social, and contextual components, it is important to understand the complexity of the female sexual response and how other factors can contribute to hypoactive sexual desire disorder. In this context, the authors hypothesized that environment and lifestyle may play an important role [12]. Among medical residents, work stress and burnout could affect negatively sexual desire [6].

In our study, women with FSD reported significantly lower sexual desire score = 3.2 vs. 4.1 and  $p = 0.03$ ) and arousal (score = 3.8 vs. 4.7 and  $p = 10^{-3}$ ), decreased lubrication (score = 3.8 vs. 5.1;  $p = 10^{-3}$ ), less sexual satisfaction (score = 3.9 vs. 5.8;  $p = 10^{-3}$ ), and higher orgasm difficulties (score = 3.4 vs. 5.1;  $p = 10^{-3}$ ). Yet, our results highlighted that women with FSD presented significantly more cognitive distraction during sex than those without FSD (score = 3.9 vs. 4.6;  $p = 0.03$ ). Similar results were reported in the literature [1,3,15]. Research on sexual cognitions suggests that positive thoughts promote sexual desire [15] and arousal [2]. In a sexual situation, both women and men suffering from SD focus on non-sexual tasks and irrelevant performance concerns. This internal attentional focus leads to a decrease in sexual desire and arousal. For individuals without SD, attention will be more focused on the erotic context, a process that increases desire and sexual response [15]. Moreover, women who reported high CD during sexual activity reported relatively lower self-esteem, less sexual satisfaction, more orgasmic disorders, and vaginismus [1,16,17].

Regarding the content of automatic thoughts, findings suggest similarities as well as some specificities between genders. In fact, it was shown that both women and men with SD had significantly reported fewer sexual/erotic thoughts and more failure and disengagement thoughts during sexual activity. However, women report a higher frequency of thoughts associated with victimization and body image concerns [17], while men with low desire or erectile dysfunction tend to present more sexual performance thoughts (eg, erection concerns) [1].

Therapeutically, interventions addressing psychological or cognitive factors should be proposed. Cognitive interventions, such as cognitive restructuring, could be used to work on negative automatic thoughts, sexual patterns, and beliefs cognitions ([15]. In addition, Mindfulness is an interesting therapeutic intervention that focuses on attention processes and is effective in SD. It aims to redirect attention to bodily sensations (interoceptive awareness), and erotic and sexual stimuli to increase pleasure and sexual arousal while reducing CD in women suffering from FSD [18].

## Limits

There are some limitations to our study that should be considered. First, our conclusions should be admitted with caution due to the small sample size. Secondly, the cross-sectional type of the survey cannot establish a causal link between the FSD and CD. Third, the use of a self-assessment instrument such as the FSFI can lead to an overestimation of the SD. A structured interview for diagnostic purposes would be more objective.

## Conclusion

The findings of our study showed that SD is highly prevalent among female medical resident doctors. Besides, they support the contribution of cognitive factors to female sexual functioning. Thus, several measures are recommended to prevent or to act:

- Integrate sex education, even in the training of health personnel.
- Set up regular consultations for health professionals to screen those with psychological distress and take charge of them.
- Consider conjugal therapy combined with sexual therapy to act on conjugal, psychological, and sexual distress.
- One of the main treatment targets of psychological interventions could be to work on CD. Thus, it would be interesting to integrate more attention flexibility, helping the person to focus less on negative and non-erotic thoughts and more on sexual stimuli. In this context, mindfulness seems an interesting therapeutic intervention that focuses on attentional processes and which could be a particularly effective tool in the treatment of SD in women.



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