

## Female Sexual Dysfunction and Diabetes: From the Darkness into the Limelight

Gender inequality is defined as the social phenomenon in which men and women are not treated equally. Unfortunately, when it comes to studies of sexual dysfunction in diabetes, the scale once again seems to be tilted in favour of the males. A PubMed search of “Female sexual dysfunction” AND diabetes yields less than 150 results while a similar search for the male gender leads to nearly 4000 publications. The scientific community clearly has not shown enough interest in this topic.

The reasons for this differential treatment can be varied. Historically, there has been a gender gap in medical research where most studies have included male participants and excluded females.<sup>[1]</sup> However, although this phenomenon has been recognized and is being actively remedied, female sexual dysfunction is yet to get enough attention. Social and cultural beliefs of the researchers may prevent them from formulating a research question.

Discussion about female sexual health may be taboo in several societies. Finding willing participants for such research may also be challenging. Probably medical education also does not lay enough stress on female sexual health so as to rouse the interest of the students to pursue research in this area.

More recently, data about female sexual dysfunction and diabetes has begun to emerge.

Females with diabetes, both type 1 and type 2, experience sexual dysfunction with a frequency which is at least twice as compared to those without diabetes.<sup>[2,3]</sup> Female sexual satisfaction scores are especially lower in those with high BMI.<sup>[3]</sup> A recent meta-analysis found that the overall prevalence of sexual dysfunction in females with diabetes was close to 70 percent.<sup>[4]</sup> This high prevalence is indeed worrisome and highlights the need to address this problem as a priority.

Interestingly, this meta-analysis mentioned above had 25 studies, none of which were from the Indian subcontinent. However, this problem was recognized by a consensus statement published in this journal in 2013.<sup>[5]</sup> Developing countries like India are socially more conservative when it comes to discussions about sexual health and the paucity of data points to this very issue. Gupta *et al.*<sup>[6]</sup> attempted to study FSD in patients with diabetes in the state of Uttar Pradesh in North India but found a surprisingly low prevalence of FSD. The authors accepted that sociocultural barriers may have been responsible for their unusual findings. This illustrates that research on FSD in India is challenging. In this issue, Ravikant *et al.*<sup>[7]</sup> have taken up this challenge by studying FSD in patients with diabetes and compared it with those without diabetes. By ensuring proper privacy and a female interviewer, they found

the prevalence of FSD to be reasonably high—this compares well with international data. Further, they have elucidated that while all sexual function domains are affected in diabetes, sexual desire and pain seemed to be the more severely affected. Recently, another study from a tertiary care hospital in eastern India reported FSD prevalence of 73% in 250 females living with diabetes.<sup>[8]</sup>

The findings of Ravikant *et al.* suggest that the mechanism of female sexual dysfunction in diabetes is not very different from the male. The triad of sex steroids, autonomic/somatic innervation and vascular flow to the genitalia is required for female sexual function.<sup>[9]</sup> Diabetes can affect all the three factors mentioned above. While sex steroids are necessary for sexual desire, the psychological aspects of this process are equally important. Diabetes is associated with a host of mental health problems—most of these can disrupt libido. These two factors probably are responsible for reduced desire. Reduced genital blood flow and neuropathy can lead to less lubrication. Further, genital tract infections are common in women with diabetes. Together, these factors can cause painful intercourse.<sup>[10]</sup> Interestingly, HbA1c does not seem to directly affect FSD domains—except in arousal and pain where factors such as genital infection might be confounders.

A part of the reason why FSD is less studied may be physician apprehension regarding the paucity of therapeutic options. This however may not be true. In a publication from the LOOK-AHEAD study, intensive lifestyle intervention caused remission of FSD in nearly a third of the females with diabetes while others had a significant improvement in Female Sexual Function Inventory (FSFI) scores.<sup>[11]</sup> In Italy, women with diabetes who had high adherence to the Mediterranean diet had better FSFI scores than those who had less adherence.<sup>[12]</sup> Apart from therapies to address the causes of FSD, specific therapies for low sexual desire such as flibanserin and bremelanotide also exist.<sup>[13,14]</sup> Data on the use of these agents in females with diabetes and FSD is sparse.

As the management of diabetes is transforming to become holistic, a crucial aspect of health such as sexual well-being cannot be ignored. Sociocultural factors should not distract the scientific community from collecting evidence regarding FSD. Hopefully, future medical research will address FSD in sufficient detail and improve the quality of life of millions of female patients living with diabetes worldwide.

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