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FEMALE SEXUAL FUNCTION

Different Characteristics of the Female Sexual Function Index in a Sample of Sexually Active and Inactive Women

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ABSTRACT

Background: The Female Sexual Function Index (FSFI) is a widely used measurement tool to assess female sexual function along the six dimensions of desire, arousal, lubrication, orgasm, satisfaction, and pain. However, the structure of the questionnaire is not clear, and several studies have found high correlations among the dimensions, indicating that a common underlying "sexual function" factor might be present.

Aim: To investigate whether female sexual function is best understood as a multidimensional construct or, alternatively, whether a common underlying factor explains most of the variance in FSFI scores, and to investigate the possible effect of the common practice of including sexually inactive women in studies using the FSFI.

Methods: The sample consisted of 508 women: 202 university students, 177 patients with endometriosis, and 129 patients with polycystic ovary syndrome. Participants completed the FSFI, and confirmatory factor analyses were used to test the underlying structure of this instrument in the total sample and in samples including sexually active women only.

Outcomes: The FSFI is a multidimensional self-report questionnaire composed of 19 items.

Results: Strong positive correlations were found among five of the six original factors on the FSFI. Confirmatory factor analyses showed that in the total sample items loaded mainly on the general sexual function factor and very little variance was explained by the specific factors. However, when only sexually active women were included in the analyses, a clear factor structure emerged, with items loading on their six specific factors, and most of the variance in FSFI scores was explained by the specific factors, rather than the general factor. University students reported higher scores, indicating better functioning compared with the patient samples.

Clinical Translation: The reliable and valid assessment of female sexual function can contribute to better understanding, prevention, and treatment of different sexual difficulties and dysfunctions.

Strengths and Limitations: This study provides a rigorous statistical test of the structure of the FSFI and an explicit decision rule for categorizing sexually inactive women. Limitations include a lack of control over the circumstances of data collection.

Conclusion: This study supports the use of the FSFI as a multidimensional measurement of female sexual function but highlights the need to establish clear decision rules for the inclusion or exclusion of sexually active and inactive respondents. **Hevesi K, Mészáros V, Kövi Z, et al. Different Characteristics of the Female Sexual Function Index in a Sample of Sexually Active and Inactive Women. J Sex Med 2017;14:1133–1141.**

Key Words: Female Sexual Function Index; Validity; Bi-Factor Analysis; Sexual Activity

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INTRODUCTION

Several research studies have shown that sexual satisfaction and specific sexual activities are associated with better general health and well-being in men and women.[1–3] For example, a recent review concluded that frequency of sexual intercourse is associated with increased life expectancy, and that this can be mediated by the likely beneficial effect of sexual intercourse on cardiovascular health.[2] Research findings have shown an association and, in some cases, a causal relation between penile-vaginal intercourse and the orgasmic response associated with it and such positive outcomes as achieving better hormonal regulation, decreasing menopausal symptoms, decreasing breast cancer risk, and alleviating depressive symptoms.[2,3] Conversely, impairments in sexual function can have a significant negative impact on numerous life domains.[4–6] When these impairments cause personal distress, they might be diagnosed as one of the sexual dysfunctions defined in the *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition*.[7]

Impairments in sexual function can arise as a result of a complex interaction of biological, sociocultural, and psychological factors in men and women.[8] Psychological risk factors include anxiety, stress, and depression. Sociocultural factors such as physical activity, employment status, and education also have been shown to be associated with sexual function. Biological risk factors have been relatively more widely researched and include chronic medical conditions, such as diabetes. Although less is known about sexual dysfunctions in women than in men, it is clear that such medical illnesses as endometriosis, polycystic ovary syndrome (PCOS), and gynecologic cancer can cause sexual difficulties. In these cases, female sexual function can be negatively affected by pain during intercourse, decreased subjective well-being, or negative feelings toward femininity, sexual intercourse, or relationships.[9–13] Despite advances in research, a recent consensus statement on sexual medicine highlighted that more research is needed to understand the role of psychological and sociocultural factors in sexual function, especially in women.[8] Indeed, research studies have suggested that 40% to 50% of women experience sexual difficulties,[14,15] although estimates are lower when sexual distress also is taken into account.[15,16] Considering the positive and negative relations sexual activity can have with various indicators of health and well-being, a reliable and valid assessment of female sexual function is crucial for a better understanding of this complex phenomenon.

The Female Sexual Function Index (FSFI) was developed by Rosen et al[1] as a measurement tool to assess key dimensions of female sexual function in healthy women and those with sexual dysfunctions. They originally developed the FSFI in a sample of 131 healthy women and 128 patients with female sexual arousal disorder. They used principal component analysis with varimax rotation to explore the structure of this instrument. Although the results supported the presence of five factors (desire plus arousal, lubrication, orgasm, satisfaction, and pain), they separated the desire and arousal factor into two separate scales to better complement the concept of sexual dysfunctions as defined by the *Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition, Text Revision*.[17] Therefore, the resulting self-administered multidimensional scale assesses six domains of sexual functioning: desire, arousal, lubrication, orgasm, satisfaction, and pain. Since its publication, the FSFI has become one of the most popular measurement tools of female sexual function. A total score of 26.0 has been established as a cutoff score for indicating possible female sexual dysfunction,[18] and the scale has been used in non-clinical samples,[1,19,20] populations with sexual dysfunction,[1,18,21] and physically ill populations with sexual problems,[22] in several different cultures and languages.[1,18,20,23,24]

Since its publication, several studies have explored the factor structure of the FSFI, questioning whether female sexual function is indeed best understood in terms of the six dimensions composing the FSFI in various populations. Most of these studies supported a six-factor[19,21,25] or a five-factor[18,20,22] model. However, most used exploratory factor analyses, which cannot statistically verify the factor structure of the instrument.[1,20–22] In contrast, confirmatory factor analyses, which allow the researcher to test various models, were used in only a few studies.[21,25] Despite differences in the number of factors extracted, the factor analytic techniques used, and the samples involved, most studies agree that the factors are highly intercorrelated, reflecting a substantial overlap among the six dimensions composing the FSFI. This repeated finding indicates that a common underlying "sexual function" factor could be responsible for most of the variance in FSFI scores, and that female sexual function might be best understood as a unidimensional construct. Nevertheless, no study has attempted to use confirmatory factor analysis to assess the relative contribution of a putative common factor and the six specific factors to explain the variance in FSFI scores.

In addition to the lack of explanation for the high intercorrelation among the six dimensions, another question concerns the interpretability of low scores on the FSFI as indicators of possible sexual problems or dysfunction. The FSFI is composed of 19 items. Only four of these items measure the quality of sexual life without referring to a specific sexual act, for example, "Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?" These items are scored from 1 (very low) to 5 (very high). The remaining 15 items refer to sexual activity, for example, "Over the past 4 weeks, how often did you become lubricated ('wet') during sexual activity or intercourse?" These items are scored from 0 to 5 (5 = "very often," 1 = "almost never or never," 0 = "no sexual activity during the past 4 weeks"). It has been argued that although the FSFI scoring algorithm assumes that the zero category indicates the lowest level of functioning on each item's response scale, these scores also could indicate the absence of sexual activity for reasons other than sexual difficulties or dysfunction. Therefore, including women who select "zero" to several items could bias the results toward indicating dysfunction. Although it might be more appropriate to categorize zero answers as "missing values" rather than interpreting them as indicating