

ESCORES DE CORTE PARA O FSFI

Cutoff scores for the FSFI

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RESUMO

A disfunção sexual é feminina (DSF) é considerada mundialmente epidêmica, e pode ser estudada por meio de questionários. O mais utilizado é o Female Sexual Function Index (FSFI), para o qual existem diferentes escores de corte preditivos de DSF. Objetivo: Descrever e discutir a validade dos escores de corte preditivos de DSF para o FSFI. Método: três bases de dados foram revisadas sistematicamente entre os anos de 2000-12, incluindo estudos que utilizaram escores de corte para o FSFI. Resultados: Foram encontrados nove escores de corte para o FSFI: 14.1; 18.5; 20.8; 22.8; 23; 23.4; 25; 25.5 e 26.55. Quatro deles, 20.8; 23.4; 14.1 e 18.5 foram desenvolvidos para populações específicas, como mulheres no climatério. O escore de 26,55 foi utilizado mais de 84% dos estudos, apesar de ter sido validado unicamente na população estadunidense. Conclusões: há nove escores preditivos de disfunção sexual para o FSFI, cinco deles para mulheres em geral. O mais utilizado foi validado apenas nos Estados Unidos, o que requer critério na utilização do mesmo em populações de diferentes contextos socioculturais.

Palavras-chave: Disfunção Sexual Feminina, FSFI, escores de corte

ABSTRACT

Female sexual dysfunction (FSD) is now considered world epidemic. It can be assessed through questionnaires survey, which most currently used is the Female Sexual Function Index - FSFI, for which there are cutoff scores to predict FSD. Objectives: to describe and discuss the validity of currently FSFI cutoff scores for FSD. Method: an electronic search was performed in three databases between the years 2000-12. Inclusion criteria was studies using cutoff scores for the FSFI. Results: There were nine distinct cutoff scores: 14.1; 18.5; 20.8; 22.8; 23; 23.4; 25; 25.5 and 26.55. Four of them, 20.8; 23.4; 14.1 and 18.5, were developed for specific populations, such as women in menopause. The 26,55 cutoff was widely used (84%), but it was validated only for the United States, so it is necessary criterion to use that cutoff in populations with different socio-cultural contexts.

Keywords: Female Sexual Dysfunction, FSFI, cutoff scores.

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INTRODUCTION

Pelvic floor dysfunctions affect negatively the quality of life of women due to structural and functional damage to muscles, nerves, fasciae and/or ligaments. Such alterations may trigger health problems such as fecal and urinary incontinence, several types of genital prolapse and, remarkably, sexual dysfunctions^{1,2}.

Highly prevalent in women, currently a great deal of scientific effort has been spent to explain sexual dysfunctions (SD), characterized by dysfunctions during the stages of desire, plateau and orgasm, or by the presence of pain associated to sexual intercourse¹.

One of the ways to assess SD is through questionnaires. Nowadays, these tools are widely used to investigate pelvic floor dysfunctions (PFD) in general³, including sexual implications^{4,5}.

Nowadays, the Female Sexual Function Index or FSFI⁶ is the most used questionnaire worldwide to study female sexual function⁷. Meston et al.⁸ have validated the FSFI for sexual dysfunction and hypoactive sexual arousal in 116 women, reporting that this tool was precise and adequate for its purpose. The instrument has undergone psychometric assessment, reliability tests, convergence and discrimination validity⁹, being translated to Dutch¹⁰, Malayan¹¹, Chinese^{12,13}, Japanese¹⁴, Iranian¹⁵ and other languages.

In Brazil, FSFI has been validated and culturally adapted to Portuguese, in parallel, by Hentschel et al.¹⁶, Thiel et al.¹⁷ and Pacagnella et al.¹⁸. Construction validity was demonstrated by Pacagnella et al.¹⁹.

It is a short scale, adding up to 19 questions that aims to assess the sexual function in women using six subscales. The sum of these scores allows measurement of desire, arousal, lubrication, orgasm, satisfaction and pain. There is also a total score of sexual function, which can range from 2 to 36, with higher scores indicating better function^{6,9}.

Studies regarding female sexual dysfunction from the FSFI often mention the use of cutoff scores, a critical value that would allow the discrimination of people with higher and lower risk of presenting SD¹⁵. However, there are variations in the values of these critical scores^{20,23} and, according to the context, some questions rise about how many cutoff scores there are, what scores and which is the most often used to predict female SD using the FSFI.

METHOD

As the FSFI was first published in 2000⁶, the database of Pubmed, Scopus and BVS from 01/01/2000 to 31/11/2012 was examined, using only the search uniterm FSFI. Through reading of abstracts of all identified articles, those that had created, used or mentioned diagnostic cutoff scores for FSFI were included. Inclusions were independently performed by two researchers, and divergent cases have been resolved in a consensus meeting.

Duplicates of articles in the database were excluded. All included studies have been organized in charts according to author, country, sample, objective, sample size, cutoff score, outcomes and conclusion. These were then submitted to qualitative assessment through the Jadad Scale²⁴, and studies with scores under 3 were withdrawn. Jadad Scale, also known as the

Oxford Quality Scoring System, is a widely used scale to independently assess the methodological quality of clinical trials, qualifying randomisation, blinding, withdrawals and dropout and if that points are described in the paper²⁴. At last, manual counting of the most prevalent cutoff scores was performed. Considering the worldwide use of the FSFI, results presented were classified by country.

RESULTS

Our search returned 1,541 articles which at least mentioned FSFI, 384 from Pubmed, 352 from BVS and 805 from Scopus. Among those, 83 articles used or dealt with at least one cutoff score. Excluding duplicates, the present review used 51 remaining articles. None of them has obtained a score higher than 3 in the Jadad scale. Figure 1 summarizes the results from the different databases.

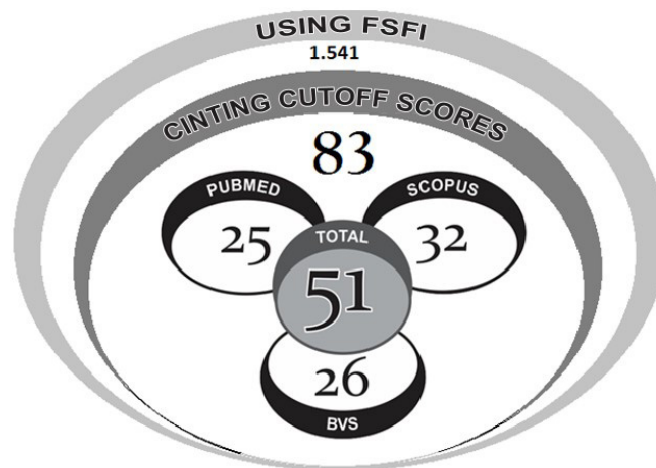


FIGURE 1: Included studies.

Most articles used the 26,55 cutoff score, reason why results were presented in two categories: articles which used the 26,55 cutoff score, and others.

Studies which used the cutoff score 26.55

In 2005, Wiegel et al.⁹ validated the FSFI in U.S. citizens with sexual dysfunction, using outcomes of previous studies^{6,8}. For 568 included women with several types of sexual dysfunction, the total score of 26.55 was enough to classify 70.7% of women with sexual dysfunction, compared to a golden standard, i.e., an interview executed by a specialized sex therapist. The authors also described cutoff scores for each domain of the questionnaire. Both cutoff scores for all domains as for total score are the most often used for SD diagnose by FSFI.

In Latin-America the cutoff score of 26.55 for SD was used in prevalence studies for women of different social contexts. Echeverry et al.²¹ studied prevalence and risk factors of SD in Colombian women from 18 to 40 years old, whereas Garcia et al.²⁵ did the same in Colombian women who either regularly go to a local gynecological routine care, or who belonged to the medical staff of the same hospital. Escajadillo-Vargas et al.²⁶ studied prevalence of SD in young college students in Peru, Chile and Equador, whereas Blümel et al.²⁷ did the same for middle-aged women in 11 other Latin-American countries.

Similar studies have been performed in the U.S.A,

utilizing the same cutoff score, by Shindel et al.²⁸ studying prevalence of SD in interns and medical residents. Breyer et al.²⁹ compared SD prevalence in women with different sexual orientation, whereas Nelson et al.³⁰ investigated SD prevalence in women of infertile couples.

In Europe, the score 26.55 was used as the cutoff score for SD in general population women in England by Burri & Spector.³¹ In Spain by Perez Lopez et al.³² and in Turkey by Demir et al.³³.

In Asia, similarly, Jara et al.³⁴ used the same score to study sexual function in Chinese menopausal women. In Thailand, Pevanajarassri et al.³⁵ also used this score in menopausal women, whereas Singh et al.³⁶ assessed sexual function in married Indian women who regularly came to a general ambulatory care clinic.

Besides women in the general population, the cutoff score developed by Wiegel et al. was also used to assess comorbidities related to female SDs. In Italy, Nappi et al.³⁷ used this SD score in women with headache. Damast et al.³⁸ used the same score in women who had endometrial cancer of all stages, whereas Onojogu et al.³⁹ studied SD only in its first stage, under the same cutoff score. Baser et al.⁴⁰ and Carter et al.⁴¹ researched the dysfunction in cervical cancer survivors who had undergone surgery utilizing the score 26.55, as well as Song et al.⁴² utilized the score in women who had undergone premature surgical treatment for gynecological cancer.

The score was also used to assess the results of vaginoplasty⁴³ and rectosigmoid vaginoplasty⁴⁴ due to aplasia or agenesis, respectively. According to the impact of urinary dysfunctions in female sexual function, the score 26.55 was used for hyperactive bladder patients⁴⁵ and surgically corrected urinary incontinence^{46,47}. Black et al.⁴⁸ used the score to study women who had undergone urethral trauma, whereas Otten et al.⁴⁹ studied SD in women with interstitial cystitis or abdominal pain syndrome.

SD studies in pregnant women also used the 26.55 score as the cutoff score for dysfunction⁵⁰. Ribeiro et al.⁵¹ used the score to study SD in women who developed gestational? , Mezones et al.⁵² for diabetic menopausal women, while de Almeida et al.⁵³ studied the sexual function in women with premature ovarian failure. Rodriguez et al.⁵⁴ researched SD in women who had undergone hysterectomy.

This cutoff score was also used in infertile women^{55,56}, women who underwent chronic dialysis⁵⁷, kidney transplant⁵⁸, bariatric surgery^{59,60}, who have focal epilepsy⁶¹, failed ileo-anal anastomosis⁶², antidepressant users⁶³, women with vaginal candidiasis and com candidiase vaginal and vulvodinia⁶⁴.

Studies using other cutoff scores

Other cutoff scores have been used less frequently. In China, Zhang et al.²² utilized a cutoff score of 25 for SD in women living in urban areas. Lianjun et al.⁶⁵ described 22.8 as cutoff as most adequate to identify SD in women with low income in urban areas. Compared to a medical specialist's diagnosis, Xu et al.⁶⁶ found a score of 25.5 to be more specific to classify SD in middle aged women with high blood pressure.

In Italy, Giugliano et al.⁶⁷ used 23 to indicate SD in type II diabetic women who had undergone different diets, whereas Esposito et al.^{68,69} found this score in SD in obese women with peripheral and autonomic neuropathies. Isidori et al.⁷⁰ developed a shortened version of the FSFI, with six questions, with scores

less than 19 indicating SD.

In Italy, Nappi et al.²³ described distinct cutoff scores for healthy women who regularly went to a gynecological ambulatory clinic. For women who used oral contraceptives the score was 20.8, for non-users 23.4; the cutoff score in menopausal women was 14.1, for women with hormonal replacement 18.5. These scores were calculated from the medians and quartiles from each sample.

When validating the Malayan version of the FSFI, Sidi et al.¹¹ described a score of 55 as most adequate. However, the authors do not specify how this score can be compatible with the standard score of the FSFI with a maximum of 36^{6,9}.

DISCUSSION

Female SD is a prevalent problem that needs further study^{1,31}. Research based on questionnaires provides information on this health problem^{4,5}. Instruments for this purpose have been developed in several countries, but the use of various questionnaires makes it difficult to compare data among the studies, which makes it difficult to systematically review the literature³¹.

Aiming to solve this problem, a board of experts gathered in 2000⁶ to construct a questionnaire in order to assess the various aspects of female SD. The result was the FSFI, currently translated into several languages^{10,19}, now being the most used instrument in studies of female SD⁷. In 2005, a new board of experts gathered (9) to develop a cutoff score of the FSFI, that would allow to distinguish women who have and who have not sexual dysfunction.

Although it has been validated only for the U.S. population, the cutoff score, of 26.55, is currently the most used in studies of prevalence of female SD in those countries where the FSFI has been semantically validated. In fact, out of the identified 51 articles (84,3%) in the three database under study, only eight (15,7%) used different cutoff scores^{22,23,65,70}. These scores, being 14,1, 18,5, 22,8, 23, 23,4, 25 and 25,5 are below the score of 26,55, found by the board in 2005, which means that these studies rule out a bigger portion of women from the dysfunction zone.

Maximum FSFI score is 36. The 26,55 cutoff score classifies as dysfunctional 73,75 of possible scores. Scores below that value, narrow this zone. I.e., cutoff scores of 23 and 25 points classifies as dysfunctional only 63.88% and 69.44% of the maximum possible scores respectively. Again, this cutoff scores are less rigid than Wiegel's et al., and classified as normal women would be diagnosed as dysfunctional by 26,55 cutoff.

Although less rigid, scores of 14.1 and 18.5 points, found in menopausal women, undergoing yes or no hormonal replacement²³, decrease this zone to 39.1% and 51.3% of the total 36 points, respectively. However, these scores were calculated from the means and medians from the total scores of the sample of menopausal women. In those women a higher prevalence of SD was expected, and younger women - therefore less likely to have SD - did not take part in the means and medians for the cutoff, resulting in lower cutoff values. Once more, dysfunction women by the 2005 board standards are classified as normal, and thereby not treated.

One reason for lowering the cutoff scores for menopausal women may be the idea that, at this age, it is normal to expect some dysfunction. Nappi and collaborators²³ didn't make clear if, under their understanding, women over 18,5 cutoff point,

but under 26,55, should not be treated. Nevertheless, a cutoff score which classifies as normal women who would be dysfunctional, allows the negligence of potentially affected and treatable individuals

If it is right that women with scores under 26.55 present SD, then this measure is independent of the specific group in which this woman belongs, either pregnant, menopausal, etc. In other words, even if all the menopausal population reaches scores under 26.55, this do not need to change the cutoff sensitivity. That observation must call attention to the fact that this population in at risk for SD, for which it is necessary greater scientific attention and clinical follow up.

It is remarkable that, for women in general, the values 22.8 and 23 (mean 22.9 ± 0.1) are close each other, as well as 25 and 25.5 (mean 25.25 ± 0.25). Gathering these values, it is possible to state that, generally, the cutoff scores used nowadays are 26.55, and a score around 23 and another around 25.25. More studies on the sensitivity of these scores are necessary.

This review, although it includes ten Brazilian studies, did not find cutoff scores that have been validated for the Brazilian population. The only five available studies used 26.55 as the cutoff score of the FSFI for SD^{50,51,53,66}. Differences, especially the cultural ones, between Brazilian and U.S. populations, may create bias in relation to the sensitivity of the cutoff score, because of social, cultural and, mostly, religious differences. Hence, new studies are necessary to clarify these issues and, by then, the utilization of 26.55 as an identifier of SD in distinct cultural samples, as the Brazilian population, must be analyzed under critical judgement.

CONCLUSION

Currently, there are nine cutoff scores to diagnose female SD from the FSFI scores. They are 14.1; 18.5; 20.8; 22.8; 23; 23.4; 25; 25.5 and 26.55. Four of them, 20.8; 23.4; 14.1 and 18.5, were developed for specific populations, such as women in menopause, women who undergo hormonal replacement or oral contraceptives. The other five, 22.8; 23; 25; 25.5 and 26.55, were developed for women in general. The latter was widely used as the cut-off score for SD in the absolute majority of the studies. It is not clear why this one is more often used.

Most studies which used the cutoff scores for female SD from the FSFI used for this purpose the cutoff score 26.55 and this value was developed and validated on data from a sample of U.S. women. Such fact may turn into a potential generator of bias, and to prevent it new studies are needed. By then, the utilization of the score 26.55 as an identifier of SD in samples which are culturally distinct from the U.S. sample must be sensibly pondered.

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