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Psychometric Validation of the Sexual Distress Scale in Men with Prostate Cancer

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ABSTRACT

Background: Different scales exist for the assessment of sexual distress in men with prostate cancer (PCa); however, these measures narrowly focus on distress associated with sexual function.

Aim: To validate and examine the psychometric properties of the Sexual Distress Scale (SDS) and Sexual Distress Scale-Revised (SDS-R), which were recently validated for use within men, in samples of sexually functional and sexually dysfunctional men with PCa.

Methods: A sample of 538 men (with and without PCa and with and without sexual dysfunction) were used to examine the psychometric properties of the SDS. Confirmatory factor analysis followed by tests of measurement bias, calculations of reliability, and estimation of receiver operating characteristic (ROC) curves were used to examine the psychometric properties of the SDS and SDS-R. A subsample of 321 men completed the survey again 1 month later, and their responses were used to examine test-retest reliability.

Outcomes: Participants completed the SDS and SDS-R, as well as measures of sexual bother and sexual concerns, sexual function, sexual attitudes, and mood states.

Results: The SDS and SDS-R assess 1 general domain of sexual distress; 1 violation of measurement invariance was found between men with and men without PCa, which limits the comparability of scores between these 2 groups. Internal consistency and test-retest reliabilities were above 0.93 and 0.82, respectively. Evidences of validity based on relations with other variables supported our predictions because sexual distress was associated with other measures of distress, sexual function, satisfaction, and mood and not correlated to sexual attitudes. Although the SDS and SDS-R discriminated between sexually functional and dysfunctional men, the accuracy of the cutoff scores was only moderate.

Clinical Translation: This instrument can be used by researchers and clinicians to examine sexual distress and can be used to elucidate how sexual distress relates to sexual function, well-being, and quality of life.

Strengths and Limitations: The SDS and SDS-R assess sexual distress independently of sexual function; however, with the current evidence, they should not be used to compare men with and men without PCa and to classify men with and men without sexual dysfunction.

Conclusion: This study provides a validation of the SDS and SDS-R that can be used in samples of men with PCa and with and without sexual dysfunction for the assessment of distress. **Santos-Iglesias P, Walker LM. Psychometric Validation of the Sexual Distress Scale in Men with Prostate Cancer. J Sex Med 2018;15:1010–1020.**

Key Words: Sexual Distress; Prostate Cancer; Validation; Reliability; Validity

INTRODUCTION

Prostate cancer (PCa) is estimated to be diagnosed in more than 160,000 new patients in the United States per year.[1] Virtually all treatments for PCa can reduce sexual function, frequently causing erectile dysfunction (ED),[2–4] which can take up to 4 years to recover, and still only about 50% of men will regain their erectile function.[5] But PCa treatments can also result in other sexual problems, such as diminished sexual desire, difficulties with

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orgasm, penile shortening, and Peyronie's disease.[2,6,7] Arguably the most distressing long-term side effect of treatment that patients report is high levels of sexual distress associated with erectile difficulties.[4,8–10] However, changes in sexual function can have a deeper, more profound impact because they negatively impact patients' intimate relationships and sexual lives. As a result, patients often report being distressed about other aspects of their sexual relationships beyond sexual function. Reduced sexual satisfaction is common and is highly distressing.[11] Patients report worrying that their sexual changes will also affect their partner's sexual satisfaction and hinder future relationships.[11] Those who use erectile treatments report concern and embarrassment about their sexuality,[3] and 50% of men who found erectile treatments to work for them to produce erections actually stopped using them within a year.[12,13] Changes in sexual function and intimate relationships can cause high sexual distress, which is associated with reduced quality of sexual relationships and quality of life.[14–17] Therefore clinical research and interventions should include assessment of comprehensive indicators of sexual health, like sexual distress, alongside assessment of sexual function.[14,18,19]

Sexual distress, often conceptualized as sexual bother or concern,[20] refers to different negative feelings (eg, anxiety, worry, frustration, feelings of inadequacy) associated with sexual function and sexuality.[21,22] Sexual distress, although still relatively understudied,[20] has gained recognition in recent years as an important domain of sexual health and well-being because of its inclusion as a criterion for the diagnosis of sexual dysfunction.[23] As such, research has confirmed that sexual distress is higher in men and women with sexual dysfunction than in those without sexual dysfunction.[24,25] Sexual distress is associated not only with poorer sexual function[26,27] and lower sexual satisfaction[22,28] but also with depression and negative mood.[29] Although sexual distress and other domains of sexual health are related, research supports that sexual distress is independent from both sexual function and sexual satisfaction. Therefore, people can experience diminished sexual function or lack of sexual satisfaction, without necessarily being sexually distressed.[22,30] It follows that the reverse is also possible, with people experiencing sexual distress even when sexual function and satisfaction are good. For example, given that sexual relationships are dyadic in nature, distress can also extend to concerns about one's sexual partner's function. This idea highlights the importance of assessing sexual distress independent of other closely related constructs, namely, sexual function and sexual satisfaction.

At first glance, some standard PCa outcome measures appear to assess the construct of sexual distress,[31–33] such as the Prostate Cancer Specific Instrument-Sexual Bother subscale[31] or the commonly used Expanded Prostate Cancer Index Composite-Sexual Bother (EPIC) subscale.[33] However, these measures have several limitations. First, they narrowly focus on distress associated only with sexual function, whether it is with overall sexual function (eg, "How often have you felt embarrassed or ashamed because of poor sexual function?")[31,32] or with specific domains of sexual function (eg, "level of sexual desire").[33] This narrow focus overlooks other concerns related to sexuality (eg, emotional impact of reduced function, frequency of sexual activity) and intimate relationships (eg, desire discrepancy, availability of a partner). Because men with PCa report concerns related to a wide variety of aspects of their sexual lives, sexual distress should be assessed more comprehensively, as well as independently of sexual function. Second, it is not clear that these specific items and subscales assess sexual distress only. For example, the items of the sexual bother subscale of the EPIC load on the same factor as items that assess sexual function (eg, erectile function, desire)[33,34]; therefore, it is unlikely that they measure just sexual bother. Finally, most of them have been subject to very little psychometric scrutiny, leaving many psychometric properties (eg, responsiveness to treatment, measurement bias, etc) unknown.[20]

The Female Sexual Distress Scale (FSDS)[25] is a 12-item scale that assesses sexual distress independent of domains of sexual function (eg, distress about sex life). In 2008 it was modified to add an item assessing distress related to low sexual desire (FSDS-R).[24] The FSDS and FSDS-R use a Likert scale that ranges from 0 (Never) to 4 (Always). Scores range from 0 to 48 (FSDS) or 0 to 52 (FSDS-R), with higher scores indicating greater sexual distress. The FSDS and FSDS-R are reliable and valid for the assessment of distress in women, show responsiveness to treatment, and discriminate between women with and without sexual dysfunction.[24,25,35,36] Aside from these strong psychometric properties, the FSDS and FSDS-R have another advantage over the measures mentioned previously. Instead of assessing sexual distress about sexual function (eg, ability to have an erection), they assess distress independently of sexual function (eg, "Distressed about your sex life" or "Frustrated by your sexual problems"). They are therefore more sensitive to a broader range of sources of sexual distress (eg, relationship problems, partner problems, frequency of sexual activity, etc).

Recently, the FSDS and FSDS-R were validated for use with sexually functional and dysfunctional men[37] (thus called the Sexual Distress Scale [SDS] and Sexual Distress Scale-Revised [SDS-R]), and results showed excellent internal consistency ($\alpha = 0.93–0.94$) and test-retest reliability ($r = 0.80–0.85$), as well as evidences of validity based on content, internal structure, and relations to other variables. The SDS and the SDS-R discriminated between men with and men without sexual dysfunction using cutoff scores of 18.5 and 19.5, respectively.[37] Strengths of the SDS and SDS-R include strong psychometric properties supporting use in both men and women, as well as the broader scope in assessing the experience of sexual distress.

The Present Study

We examined the psychometric properties of the SDS to establish validation of the measure specifically for use in the PCa population. We used the current standards for scale validation[38] to guide examination of the factor structure of the SDS (ie, by conducting a confirmatory factor analysis) and to examine whether the SDS can be used to compare men with and men