Relationship between pelvic floor muscle strength and sexual dysfunction in postmenopausal women: a cross-sectional study

Ann Dunbar PT, DPT, MS, WCS
May 9, 2018

Introduction: Female sexual function is complex, influenced by many factors. Sexual dysfunction has been defined as a disturbance in any of the phases of the sexual response or as the presence of pain during sexual intercourse. Several studies suggest a relationship between declining PFM strength and sexual dysfunction. And though increasing age has also been shown to increase the prevalence of sexual dysfunction, other research has shown that regardless of age, the transition after menopause itself could be a contributing factor where PFM function may decline due to estrogen deficiency.

Aim of Study: “... to evaluate the relationship between PFM strength and sexual function in post-menopausal women” as well as “the relationship between reported UI and sexual dysfunction.”

Study Design: Cross-sectional clinical study

Methods:
Participants:
- Women were recruited by advertising on radio and at the University of Sao Paula, Brazil. Subjects needed to be postmenopausal for at least 10 years (following definition of WHO) and currently sexually active with intercourse. Exclusion criteria listed in article. Related to the pelvic floor, women were excluded if not able to contract PFMs via vaginal palpation, intolerance to vaginal examination, and greater than stage 1 prolapse.

Measurements:
- PFM evaluation completed by one physiotherapist who was blinded to results of outcome measures described below. Contraction was evaluated by digital vaginal palpation assessing for circular closure around the palpating finger as well as movement in a ventral and cranial direction. PFM strength was assessed using Peritron, which as been found to have good intrarater and moderate interrater reliability. With condom covered Peritron probe inserted vaginally per protocol, subjects completed three maximum voluntary contractions with 30s rest intervals. Mean pressure of three trials used in analysis. Accuracy of contraction assessed by observing inward movement of probe and perineum. Authors stated “co-contraction of the hip abductors and glute max was discouraged by requesting the woman to perform the Valsalva maneuver.” (Suspect this may be an error? perhaps in translation since doing Valsalva would increase intra-abdominal pressure which would skew the results of the vaginal pressures readings).
- Subjects also completed the FSFI and the ICIQ-UI SF. FSFI covers six domains of sexual function including: lubrication, arousal, desire, pain, orgasm, and global satisfaction. Total score of 26.5 or less indicates sexual dysfunction. ICIQ-UI SF validated in Portuguese and shown to have good test-retest reliability. Question three used to identify prevalence of UI. Total score used to classify UI into severity levels. Question 6 used to classify type of UI.

Statistical Power and Analysis:
- Authors determined 108 subjects needed for sample size that would detect difference of 8cmH20 using Peritron with SD of 15. Also determined they needed 2.5 subjects with sexual dysfunction for every subject without. See pg. 933 for remaining statistics used for analysis.
Results:

- Total of 113 women were eligible to participate in study.
- Demographics of women with and without sexual dysfunction are found in Table 1; no statistically significant differences in any of the variables were found between groups.
- Mean FSFI scores for women with sexual dysfunction were found to be significantly lower in all domains than in women without sexual dysfunction (p values < 0.001). PFM strength was also found to be significantly lower in women with sexual dysfunction (p < 0.02) (see Table 2).
- No significant difference found in severity of UI between groups (p=0.07) Researchers found a weak correlation between total ICIQ-UI-SF score and FSFI domain scores (see Table 4)

Discussion

- Authors state primary finding from this study is that women without sexual dysfunction were found to have stronger PFMs. Others have hypothesized that the pubococcygeus and ileococcygeus muscles are primary for the involuntary contractions occurring with orgasm. They suggest that increased PFM strength could contribute to improved arousal and orgasmic response. Authors of this study caution that the results of this study do not suggest a cause/effect relationship because the present study is cross-sectional, taken at a single point in time.
- Previous research has estimated that around 50% of postmenopausal women have some complaints of sexual dysfunction with most common being hypoactive sexual desire, dyspareunia and anorgasmia. Though prevalence of sexual dysfunction found to be high in this study, it is consistent with ranges reported in previous studies (range 38% to 85.2%).
- Authors in this study found FSFI scores in all domains to be lower in women with compared to women without sexual dysfunction. More specifically, they also found the Desire domain for those with sexual dysfunction to be below the established cut-off (score less than 3) for identifying women with hypoactive sexual disorder suggesting these women are at risk for this disorder.
- Previous research as reported in systematic review did not demonstrate a clear relationship between PFM training and sexual function. Most previous research sited had methodological concerns using unvalidated PFM assessments, research questions not specific for addressing PFM training, failure to report validity and reliability data on measurement device (see Systematic Review by Ferriera et al).
- Prevalence of UI in postmenopausal women with sexual dysfunction reported to be in 19% to 50% range. Findings in this study are consistent at 48.1%. No significant differences in ICIQ-UI SF scores were found between 2 groups w/ and w/o sexual dysfunction. Authors did find a small negative correlation between scores for arousal, desire, satisfaction, and pain domains and total FSFI and total ICIQ-UI SF scores. Though other studies suggest correlation between severe UI and sexual dysfunction, findings from this study differed. Authors site small sample size as reason for caution when interpreting findings.
- Limitations discussed include limitations of FSFI for diagnosing sexual dysfunction. No evaluation of distress in their methodology. Also did not collect information about medications which could have impacted sensory function and the final scores. Use of WHO definition for menopause may have also included women with altered physiology due to prescribed hormones.
- Strengths include use of valid and reliable instruments to evaluate both PFM strength and sexual function. All measurements conducted by single examiner, blinded to results of FSFI and ICIQ-UI SF.

Summary

- Postmenopausal women without sexual dysfunction have stronger PFMs than women with sexual dysfunction.
- A weak correlation between sexual function and UI severity was found.
- More RCTs needed to establish a cause-effect relationship between sexual function and PFM strength.
Discussion Questions

1. Do you routinely screen for sexual dysfunction in all patients referred for pelvic floor dysfunction? How?
2. Do you use the FSFI routinely or selectively? Or do you use a different instrument for assessing sexual function?
3. What findings in this study will be most useful to you in your patient care?

Is Pelvic Floor Dysfunction an Independent Threat to sExual Function? A Corss-Sectional Study in Women With Pelvic Floor Dysfunction.

Aim: To investigate the predictors of sexual function in women with pelvic floor dysfunction (PFD) to include stress urinary incontinence (SUI), pelvic organ prolapse (POP), overactive bladder (OAB), obstructed defecation (OD), and fecal incontinence (FI).

Methods: Retrospective, cross-sectional study included 755 women with mean age of 56 years, 68% were postmenopausal. Intake included standard history, demographics, and PF function and sexual function with use of the following validated QOL instruments: Pelvic Floor Distress Inventory (PRDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7) to assess PFD. They used Short Personal Experiences Questionnaire** to assess sexual function. Physical exam included BMI, POPQ, PFM strength (Oxford scale).

Results: Subjects with sexual partner=74% and recent intercourse=56%
Prevalence of PFD as follows: POP 72%; SUI 66%; OAB 78%; FI 41%; OD 70%
Participants reported low level of sexual enjoyment and desire as well as moderate levels of sexual arousal and orgasm. POP, OD, and FI were associated with not enjoying sex however when adjusted for age, atrophy, dyspareunia, and partner issues (other determinants of sexual dysfunction), these associations disappeared.
Conclusion: “Women with PFD also have a large burden of sexual dysfunction, although this appears to be mediated by factors not unique to PFD.”
**Adapted from the McCoy Female Sexuality Questionnaire validated to use with post-menopausal women.