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A VALIDATED FEMALE PELVIC FLOOR QUESTIONNAIRE FOR CLINICIANS AND RESEARCHERS

Hypothesis / aims of study

The aim of this study was to design and validate a pelvic floor questionnaire that assesses female bladder, bowel and sexual function, pelvic organ prolapse and condition-specific quality of life issues suitable for routine clinic and research.

Study design, materials and methods

The questionnaire was developed from several questionnaires and included additional clinically relevant questions. It was applied during an interview in an age-stratified random sample from the electoral roll of 493 women in the community aged 40-79 years. These women are taking part in a longitudinal study of ageing.

Content validity was assessed by the level of missing data and ambiguous questions. Criterion validity was evaluated by comparing the questionnaire to previously validated and established instruments (1,2,3) and to clinical measurements like the ICS pelvic organ prolapse staging. To evaluate construct validity, the pelvic floor questionnaire was applied to a subgroup of 49 women (mean age 57±9 years) and compared with 25 age-matched women attending a urogynaecology clinic (mean age 58±15). Internal consistency was analysed using Cronbach's alpha statistics. Reproducibility was evaluated in a re-test after 2-4 weeks in the subgroup of 49 women.

A four-point scoring system was used for most items in the questionnaire apart from defaecation frequency, bowel consistency, sufficient lubrication, and the reason for sexual abstinence. Additive scores were calculated separately for bladder, bowel, pelvic organ prolapse and sexual symptoms domains. The scores were divided by the number of relevant questions and multiplied by 10 giving a value between 0 and 10 for each of the four domains and a maximum pelvic floor dysfunction score of 40.

Results

Content validity

The questionnaire was easily applied to all women and there were no missing data. Questions regarding incontinence of flatus (from bowel questionnaire, 2) and prolapse sensation (from UDI, 1) were ambiguous and had to be rephrased. The prolapse questions however were easily understood by urogynaecological patients.

Construct validity

The questionnaire clearly distinguished the community and clinical populations. Bladder, bowel and prolapse symptom scores as well as individual responses differed significantly (Mann-WhitneyU and Chi-square tests, $p < 0.05$). The sexual function score was not different between the populations but women in the community had a higher libido and frequency of coitus, and less dyspareunia than urogynaecological patients (Chi-square tests, $p < 0.05$).

Criterion validity

The bladder function domain of the questionnaire was compared with the validated short version of the urogenital distress inventory (SUDI; 1). Resembling the construction of the SUDI, the two corresponding variables stress and urge incontinence were dichotomised and showed high agreement with the SUDI (Kappa 0.96 and 0.90; $p < 0.01$). The SUDI score correlated significantly with the bladder function score in our questionnaire (Spearman's rho 0.78).

Bowel function correlated highly with corresponding items in the bowel questionnaire (2) (Spearman coefficients: faecal urgency 0.90, flatus incontinence 0.94, faecal incontinence 0.75, laxative use 0.95, straining 0.88, digitation 0.89, $p < 0.001$).

The sensation of prolapse and vaginal heaviness correlated weakly (Spearman correlations 0.16- 0.21) but significantly with the pelvic organ prolapse quantification (Aa,Ba,gh,Ap,Bp; $p < 0.001$).

Sexual function (n=257) was compared with the validated McCoy Female Sexuality Questionnaire (3) which uses a 7-point-Likert scale. Spearman's correlation was high for the matching variable orgasm frequency (-0.78) and reasonable for dyspareunia (-0.62), enjoyment of sex (-0.55) and lubrication (-0.53). The McCoy sum score (excluding sexual fantasies, satisfaction of partner as lover and friend) correlated highly with the sexual function score (Spearman 0.95, $p < 0.001$).

Reliability

The Cronbach's alpha for the four domains were: bladder function 0.80, bowel function 0.73, sexual function 0.63 and pelvic organ prolapse 0.62 for the community women and 0.93 for the urogynaecological patients.

Test-retest reliability

Between 78% and 100% of women answered the questions identically on both occasions and most of the remaining women answered within one category. Kappa values in the test-retest analyses varied between 0.4 and 1.0 with 81% of the items having Kappa values > 0.6 . The bladder, bowel, prolapse and sexual symptom scores correlated highly between test and retest (Spearman's rho 0.87, 0.90, 0.88, and 0.68, $p < 0.01$; mean differences 0.10 ± 0.7 , 0.19 ± 0.5 , 0.04 ± 0.2 , and 0.04 ± 0.7 , respectively).

Interpretation of results

This questionnaire assesses all aspects of pelvic floor function including condition-specific quality of life issues in a reproducible and valid fashion. It is suitable for clinicians and researchers

Concluding message

Due to its easy application and clinical relevance, the questionnaire can be integrated in routine clinical assessment as an alternative to time-consuming self-administered separate bladder, bowel and sexual dysfunction questionnaires.

References

- 1 Health-related quality of life measures for women with urinary incontinence: the Incontinence Impact Questionnaire and the Urogenital Distress Inventory. Qual Life Res 1994;3:291-306.
- 2 Bowel function and irritable bowel symptoms after hysterectomy and cholecystectomy – a population based study. Gut 1993;34:1108-1011.
- 3 The McCoy Female Sexuality Questionnaire. Qual Life Res 2000;9:739-745.