

## CORRELATION BETWEEN PELVIC FLOOR SYMPTOMS AS MEASURED BY EPAQ WITH POP-Q ASSESSMENT

### Hypothesis / aims of study

Pelvic floor symptoms include a broad variety of conditions relating to urinary, bowel, vaginal and sexual function. The electronic Personal Assessment Questionnaire (ePAQ) measures symptoms and their impact upon quality of life in women with pelvic floor disorders [1]. The correlation between patient's symptoms and clinical staging of pelvic organ prolapse (POP) is known to be poor [2] but studies have not used validated ePAQ to compare the various domain symptoms with prolapse using pelvic organ prolapse quantification (POP-Q) assessment.

The aim of the study was to correlate pelvic floor symptoms to prolapse in different pelvic floor compartments.

### Study design, materials and methods

A total of 89 women who had symptoms of POP, were recruited for the study. All women had clinical assessment of POP using POP-Q staging.

Pelvic floor symptoms were assessed using the ePAQ. The ePAQ provides symptoms assessment in four dimensions, namely urinary, bowel, vaginal and sexual. Each dimension provides symptom domain scores, each score being transformed on a range from 0 (indicating best health status) to 100 (worst health status). The domain score is calculated using the simple formula: domain score = total of raw score for each question in the domain/ maximum possible score x 100. The sexual dimension provides three domain scores for the different aspects of pelvic floor symptomatology that may impact on sexual function: urinary, bowel and vaginal. The two final sexual domain scores are dyspareunia and general sex life.

Spearman's correlation was performed between all ePAQ symptom domains overall POP-Q stage, POP-Q point Aa, Ba, C, Ap, Bp.

### Results

Patients had a median age of 59.3 (range 31-80) years, BMI of 28.8 (range 18-48.5) kg/m<sup>2</sup> and median parity of 2 (range 0-7). Out of these 89 women, 30 (33.7%) had undergone a hysterectomy, 16 (18%) a pelvic floor repair and 16 (18%) an incontinence surgery. POP-Q assessment showed stage 1 prolapse in 5 (5.6%), stage 2 in 61 (68.5%), stage 3 in 21 (23.6%) and stage 4 in 2 (2.2%) patients. The results of Spearman's correlation are shown in Table 1. The ones that showed significant correlation (p<0.05) are highlight in these tables.

### Interpretation of results

No correlation was seen between domains relating to urinary symptoms and prolapse. There was a positive correlation of all bowel symptom domains with POP-Q relating to the posterior compartment while most of the bowel domains were inversely related to anterior compartment prolapse. This may be explained by splinting effect of anterior compartment prolapse on posterior compartment.

Constipation was also inversely related with middle compartment prolapse. A positive correlation was seen with the prolapse domain and anterior wall prolapse, whereas posterior compartment prolapse has a correlation with the following domains: vaginal capacity, vaginal capacity impact and vaginal pain and sensation impact. Sex and bowel symptom domain and its impact had a positive correlation with posterior compartment prolapse and was inversely related to anterior and middle compartment prolapse.

Although a correlation exists between several pelvic floor symptoms and the severity of prolapse in different pelvic floor compartments, the correlation was poor

### Concluding message

Pelvic floor symptoms in ePAQ domains appear to correlate poorly with severity of prolapse as measured by POP-Q. Therefore patient management should not be based on severity of prolapse but specific symptoms.

Table: Demonstrates correlation between ePAQ domains and POP-Q assessment.

| domains                  | Overall POP-Q stage | Aa                  | Ba                  | C                   | Ap                 | Bp                 |
|--------------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|
| urinary pain             | 0.082               | 0.081               | 0.078               | 0.036               | 0.081              | 0.055              |
| urinary pain (impact)    | 0.131               | 0.083               | 0.084               | 0.087               | 0.063              | 0.040              |
| urinary voiding          | 0.186               | 0.018               | 0.011               | 0.124               | 0.015              | 0.000              |
| urinary voiding (impact) | 0.147               | 0.023               | 0.006               | 0.103               | -0.015             | -0.029             |
| urinary OAB              | 0.088               | -0.005              | -0.002              | 0.000               | 0.055              | 0.045              |
| urinary OAB (impact)     | -0.012              | -0.037              | -0.049              | -0.055              | -0.006             | -0.026             |
| urinary SI               | 0.076               | -0.012              | -0.002              | -0.017              | 0.120              | 0.112              |
| urinary SI (impact)      | 0.103               | -0.077              | -0.092              | -0.039              | 0.060              | 0.041              |
| urinary QOL              | 0.109               | 0.028               | -0.008              | 0.072               | 0.165              | 0.133              |
| IBS                      | 0.021               | <b>-0.30(0.004)</b> | <b>-0.32(0.002)</b> | -0.192              | <b>0.34(0.001)</b> | <b>0.32(0.002)</b> |
| IBS (impact)             | 0.092               | <b>-0.26(0.012)</b> | <b>-0.31(0.003)</b> | -0.099              | <b>0.29(0.005)</b> | <b>0.28(0.008)</b> |
| constipation             | 0.150               | -0.117              | -0.104              | -0.103              | <b>0.29(0.006)</b> | <b>0.28(0.007)</b> |
| constipation (impact)    | 0.088               | <b>-0.25(0.017)</b> | <b>-0.26(0.013)</b> | <b>-0.23(0.026)</b> | <b>0.31(0.003)</b> | <b>0.31(0.003)</b> |
| evacuation               | 0.169               | <b>-0.29(0.006)</b> | <b>-0.30(0.004)</b> | -0.097              | <b>0.38(0.000)</b> | <b>0.38(0.000)</b> |

|                                  |                     |                     |                     |                     |                     |                     |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| evacuation (impact)              | 0.141               | <b>-0.28(0.007)</b> | <b>-0.34(0.001)</b> | -0.114              | <b>0.34(0.001)</b>  | <b>0.35(0.001)</b>  |
| continence                       | 0.187               | -0.168              | -0.180              | -0.024              | <b>0.25(0.018)</b>  | <b>0.25(0.018)</b>  |
| continence (impact)              | <b>0.223(0.037)</b> | <b>-0.21(0.046)</b> | <b>-0.24(0.023)</b> | -0.030              | <b>0.26(0.014)</b>  | <b>0.25(0.016)</b>  |
| QOL                              | 0.084               | <b>-0.36(0.000)</b> | <b>-0.36(0.000)</b> | -0.137              | <b>0.40(0.000)</b>  | <b>0.41(0.000)</b>  |
| anal pain and sensation          | <b>0.27(0.013)</b>  | -0.064              | -0.044              | -0.058              | 0.208               | 0.177               |
| anal pain and sensation (impact) | <b>0.26(0.018)</b>  | -0.042              | -0.028              | -0.096              | <b>0.23(0.032)</b>  | <b>0.22(0.045)</b>  |
| anal capacity                    | 0.079               | -0.154              | -0.163              | -0.132              | <b>0.276(0.012)</b> | <b>0.267(0.015)</b> |
| anal capacity(impact)            | 0.081               | -0.116              | -0.126              | -0.141              | <b>0.279(0.011)</b> | <b>0.269(0.015)</b> |
| anal prolapse                    | <b>0.405(0.000)</b> | <b>0.233(0.035)</b> | <b>0.272(0.013)</b> | 0.187               | 0.142               | 0.119               |
| anal prolapse (impact)           | <b>0.417(0.000)</b> | 0.177               | 0.199               | 0.084               | 0.157               | 0.125               |
| anal QOL                         | <b>0.258(0.020)</b> | 0.050               | 0.051               | 0.059               | 0.088               | 0.070               |
| and urinary                      | 0.065               | -0.094              | -0.107              | 0.072               | 0.201               | 0.175               |
| and urinary(impact)              | 0.012               | -0.124              | -0.137              | 0.072               | 0.155               | 0.122               |
| and bowel                        | -0.025              | <b>-0.40(0.000)</b> | <b>-0.38(0.001)</b> | <b>-0.29(0.010)</b> | <b>0.326(0.004)</b> | <b>0.347(0.002)</b> |
| and bowel(impact)                | -0.019              | <b>-0.38(0.001)</b> | <b>-0.36(0.001)</b> | <b>-0.32(0.005)</b> | <b>0.318(0.005)</b> | <b>0.338(0.003)</b> |
| and vagina                       | 0.144               | -0.038              | 0.013               | -0.017              | 0.131               | 0.110               |
| and vagina(impact)               | 0.120               | -0.099              | -0.052              | -0.021              | 0.109               | 0.103               |
| urinary                          | 0.089               | -0.032              | 0.004               | -0.151              | 0.129               | 0.121               |
| urinary (impact)                 | 0.041               | -0.097              | -0.061              | -0.194              | 0.149               | 0.147               |
| sexual sex life                  | 0.109               | -0.150              | -0.143              | -0.048              | 0.184               | 0.182               |
| sexual sex life(impact)          | 0.083               | -0.214              | -0.220              | -0.094              | 0.193               | 0.181               |

#### References

1. Jones GL, Radley SC, Lumb J, Farkas A. Responsiveness of the electronic personal assessment questionnaire-pelvic floor (ePAQ-PF). Int. Urogynecol J (2009)20:557-564.
2. Digesu GA, Chaliha C, Salvatore S, Hutchings A, Khullar V. The relationship of vaginal prolapse severity to symptoms and quality of life. BJOG: July 2005, Vol. 112, pp. 971-976

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| <b>Is this a clinical trial?</b>                        | <b>No</b>                       |
| <b>What were the subjects in the study?</b>             | <b>HUMAN</b>                    |
| <b>Was this study approved by an ethics committee?</b>  | <b>Yes</b>                      |
| <b>Specify Name of Ethics Committee</b>                 | <b>Croydon ethics committee</b> |
| <b>Was the Declaration of Helsinki followed?</b>        | <b>Yes</b>                      |
| <b>Was informed consent obtained from the patients?</b> | <b>Yes</b>                      |