Hypothesis/Aims of study

- Pelvic floor muscle training (PFMT) is an efficacious, low risk intervention and is being proposed as first line treatment for every type of incontinence.
- We aimed to identify clinical prognostic factors affecting the outcome of PFMT in women with primarily stress incontinence (SUI).

Study design, material and methods

- This is a retrospective study of 188 women recruited from female Urology outpatient clinics of a public teaching hospital.
- All participants suffered either from SUI or mixed urinary incontinence (MUI) with a predominant stress component.
- Patients diagnosed with primarily urgency incontinence, operated for prolapse, incontinence or urethral reconstruction, were excluded.

Results

Effect of PFMT on incontinence.

- At 3 months the number of pads was reduced to 1 (IQR=1) after PFMT (p<0.001) for the total sample. Stress test was negative in 88.8%, while 10.1% of patients had a small leak and 1.1% more severe incontinence.
- 10% of the SUI patients were cured and only a strong correlation with negative or mildly positive stress test (p=0.014, x² test Linear-By-Linear) was revealed that was lost in linear regression.
- 11.2% of the MUI subgroups were cured from SUI while 35.7% of those with SUI were reported being free of urgency symptoms. Again, only lower severity of stress test (p<0.009, x²-test) related to complete relief of sympotms.

50% improvement in number of pads
- 107 (56.9%) patients (60% in those exclusively with SUI and 54.1% in MUI) reported ≥50% improvement.
- Improvement in endame in patients with MUI related independently with >50% reduction in pad numbers (OR=3.794, p=0.019), signifying that increase in endurance during pelvic floor evaluation for 1 sec results in 133% possible reduction of pad numbers by at least 50%.

Secondary outcomes.

- Accompanying storage symptoms and the parameters of pelvic floor evaluation improved significantly apart from muscle strength (p=0.157, Wilcoxon signed rank test) (table 3).

Table 3. Secondary outcomes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Initial evaluation</th>
<th>After 3 months PFMT</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>frequency</td>
<td>61.2%</td>
<td>31.4%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>nocturia</td>
<td>67%</td>
<td>43.6%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Constipation</td>
<td>67</td>
<td>48</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Evaluation of pelvic floor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endurance</td>
<td>2 (IQR=4)</td>
<td>0 (IQR=0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Repetitions</td>
<td>2 (IQR=1)</td>
<td>0 (IQR=0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Fast contractions</td>
<td>2 (IQR=5)</td>
<td>0 (IQR=3)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Interpretation of results

- As in previous studies, PFMT significantly improved incontinence in both SUI and MUI patients. Interestingly, PFMT improved more significantly the urgency component rather than the SUI component in the MUI subpopulation, at least in terms of complete cure.
- The concomitant use of medication did not appear to significantly improve the outcome of PFMT in MUI patients.
- Not unexpectedly, patients with negative or mildly positive stress test were more likely to achieve complete cure or significant improvement with PFMT.
- The lack of prospective design is the main limitation of the study.

Conclusions

- Pelvic floor muscle training significantly improved incontinence in both SUI and MUI patient populations.
- Lower severity or negative stress test upon initial evaluation was the single predictive factor for successful outcome of PFMT in both patient populations, and in terms of both the SUI and UUI components.
- Improvement in endame in patients with MUI related independently with >50% reduction in pad numbers.
- PFMT also improved frequency, nocturia and constipation.

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Can we identify prognostic factors for successful outcome of pelvic floor muscle training in female urinary incontinence?

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