296

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EFFECT OF BIOFEEDBACK THERAPY ON PSYCHOLOGICAL BURDEN IN OLDER WOMEN WITH URGE URINARY INCONTINENCE

Hypothesis / aims of study

Urge incontinence (UI) is common in older women and is associated with psychological burden in general and with depression in particular. Biofeedback therapy (BFB) reduces the number of UI episodes and also may improve subjective psychological symptoms. Our aim was to determine whether: 1) BFB leads to subjective as well as objective improvement; 2) prior depression (without current major episode) is related to objective or subjective incontinence severity and response to therapy, and, if the latter, is an independent factor.

Study design, materials and methods

This is a secondary analysis of data from an ongoing 12-week study of the mechanism of BFB. Participants were community-dwelling women, 60 years and older, with symptomatic urge incontinence. Study protocol included comprehensive clinical evaluation, bladder diaries, urodynamic measurements and quality of life and psychological burden questionnaires – each completed before and after therapy. Multicomponent BFB included 4 visits to teach pelvic floor muscle exercises and urge suppression strategies.

To evaluate the psychological burden of urge incontinence we used URIS-24, a validated measure of the impact of urge incontinence on quality of life in older persons. This questionnaire has 3 domains: psychological burden (6 questions), perception of personal control of the disease (5 questions) and self-concept (6 questions). Subjects respond on a 5-point Likert scale. Lower scores represent a greater impact of UI on quality of life.

We compared URIS scores (total and domains) with the number of incontinent episodes on 3-day bladder diary. We used: a) paired t-tests to investigate the effects of BFB on objective improvement (reduction of the number of incontinent episodes) and subjective improvement (improvement in URIS-24 score), and b) correlation analyses to investigate relationships between subjective and objective improvement. Furthermore, we stratified patients into subgroups with and without prior depression, and compared objective parameters of disease severity and psychological burden in these subgroups to assess the impact of depression on urge incontinence and the response to BFB. We used the mental component of SF36 (SFMC) with a validated cut point of 42/100 to identify current clinical depression.

Results

This interim analysis is based on data for 26 women (mean age 71.8 y), 8 with and 18 without a history of depression. Only two of the 8 had SFMC scores suggestive of current clinical depression. At baseline, the 8 women with history of depression had similar numbers of UI episodes/ 3 days as those without depression (11 ± 6.1 vs. 13.1 ± 7.6, p=0.51; Fig. 1.a), but worse URIS-24 scores (67 ± 16 vs. 81 ± 17, p=0.08), and much worse perception of control of their disease (13.8 ± 3.9 vs. 18.2 ± 3.0, p=0.008; Fig.1.b).

After BFB there were fewer UI episodes/ 3 days (mean change 5.1 ± 5.9, or 41% reduction, p=0.0001; Fig. 1.a) and an improvement in URIS-24 (mean change 15 ± 19, or 20%, p=0.001; Fig. 1.b). The reduction in UI episodes was similar in those with and without history of depression (5.5 ± 5.2 vs. 4.9 ± 6.4, or 50% vs. 38%, p=0.83; Fig. 1.a). Both subgroups also showed significant reduction in psychological burden after therapy (p=0.04 and p=0.0001, respectively), but the depression subgroup had a greater change in total URIS-24 score (31 ± 26 vs. 8 ± 9, or 46% vs. 12%, p=0.06); and showed significant improvements in other domains: perception of control (13.8 ± 3.9 vs. 20.4 ± 5.8, before and after, p=0.01), Fig. 1.b); and self-concept (19.4 ± 5.7 vs. 25.0 ± 6.4, before and after, p=0.03).

For the whole group, there were no significant correlations between changes in number of incontinence episodes and URIS-24 scores (total and domains), except for psychological burden (r=0.47, p=0.03). For women with history of depression, however, all of these correlations were significant (total URIS-24: r=0.96, p=0.001; psychological burden: r=0.92, p=0.003; perception of control: r=0.94, p=0.002; self-concept: r=0.728, p=0.06. None of these correlations was present in women without a history of depression.

Interpretation of results

Our data confirm previous findings that BFB is an effective therapy for UUI in older women, even those who are 5 years older than in previous studies, and regardless of prior history of depression.

The baseline difference in perception of control between those with and without a history of depression, despite similar numbers of incontinence episodes, and the improvements in perception of control and self-concept after successful BFB in the depression subgroup, suggest that UUI has a greater impact on women with history of depression, which is relieved by BFB.

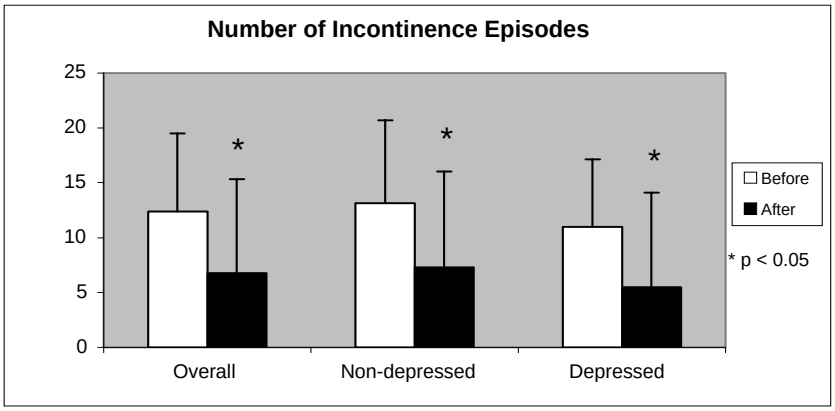
URIS-24 appears to be a sensitive measure of subtle changes in quality of life relevant to incontinent older women. These changes are linked to a history of depression, even in the absence of current clinical depression. Some previous studies have shown a reduction of depressive symptoms after BFB. Thus use of URIS-24 may help clinicians to identify subjects likely to perceive a benefit from BFB.

Concluding message

Urge urinary incontinence has an impact on quality of life in older women manifested by a psychological burden of varying extent. The impact is greater in women with a history of depression, at least in part because it affects their perception of control of the disease.

BFB can effectively reduce both UUI frequency and psychological burden, but women with a history of depression (not actively depressed), may gain an additional benefit, due to improvement in perception of control of the disease and self-concept.
Identification of history or symptoms of depression in older women with UUI may help to select a group of patients with a potential for a greater response to and additional benefit from BFB.

Fig. 1.a. Number of incontinence episodes / 3 days before and after treatment



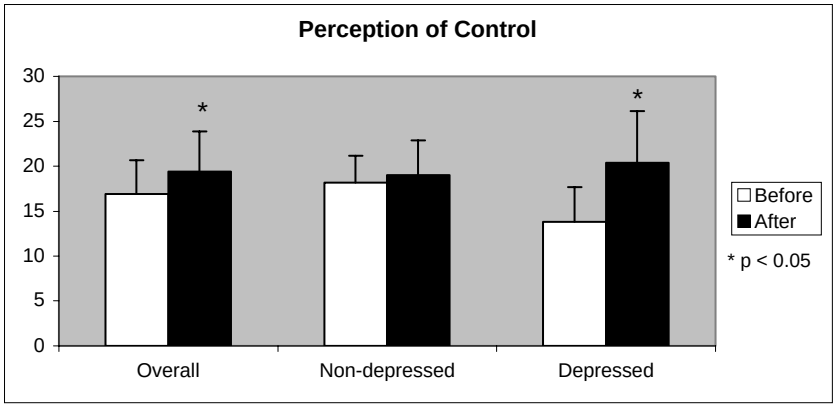


Fig. 1.b. Perception of control of disease (URIS-24 domain) before and after treatment

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