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PSYCHOLOGICAL BURDEN RELATED TO URGE URINARY INCONTINENCE PREDICTS AND ITS CHANGE CORRELATES WITH THERAPEUTIC RESPONSE TO BIOFEEDBACK IN OLDER WOMEN

Hypothesis / aims of study

Urge urinary incontinence (UI) is the most prevalent and costly form of UI in elderly women. In addition, in this age group it is underreported, often undiagnosed, associated with significant psychological burden [1], and associated with an increased prevalence of depression.

Current urge UI drug regimens are of only modest efficacy and do not adequately address the associated psychological aspects. By contrast, biofeedback (BFB)—the first-line treatment for urge UI [2]—is as effective as drugs, free of side effects, and may address the psychological burden [3]. At least in the U.S., however, effective BFB is not readily available.

Since BFB is a behavioral intervention, some of its therapeutic benefits may be affected by the psychological burden of urge UI. A better understanding of how psychological burden affects therapeutic response to BFB in women with urge UI would enable clinicians to identify those with significant underlying psychological burden and to more effectively improve patients' responses to therapy. Thus, we studied the relationship between psychological burden and therapeutic response of urge UI to BFB in older women.

We postulated that 1) baseline psychological burden would predict UI response to BFB and that 2) UI improvement would correlate with improvement in psychological burden.

Study design, materials and methods

We conducted a secondary analysis of a prospective study of 184 women >60 yrs with urge UI treated with BFB for 8 weeks. Study criteria specifically excluded patients with clinical depression. Outcome measures were obtained pre- and post-therapy. UI measures included weekly incontinence frequency and daily leakage amount as assessed by 3-day bladder diaries and pad tests. Psychological burden of urge UI was assessed using the Urge Impact Scale (URIS-24) and its psychological domains of burden, perception of control, and self-concept. We also evaluated other factors that may contribute to the psychological burden of urge incontinence: presence of a history or symptoms of depression before therapy (SF-36 Mental Component Subscale - MCS and Center for Epidemiologic Studies Short Depression Scale - CES-D10); self-efficacy (Broome scale); and anxiety and self-esteem (proxy measures). We used general linear regression to model the potential relationship of each psychological domain with therapeutic response.

Results

1. Baseline psychological burden did predict therapeutic response. Women with more baseline depressive symptoms improved less than others did (by 7.3 incontinence episodes/wk, p=0.01), as did those with worse baseline perception of control over urge UI (p=0.004). Similar results were found for improvement in daily leakage amount. (Figure 1)

2. Improved UI frequency correlated with improved self-efficacy (p=0.0006), perception of control (p=0.006), self-concept (p=0.047), self-esteem (p=0.02), and anxiety (p=0.0001). (Figure 2)

Figure 1. Baseline depressive symptoms **negatively predict** improvement in urge UI.

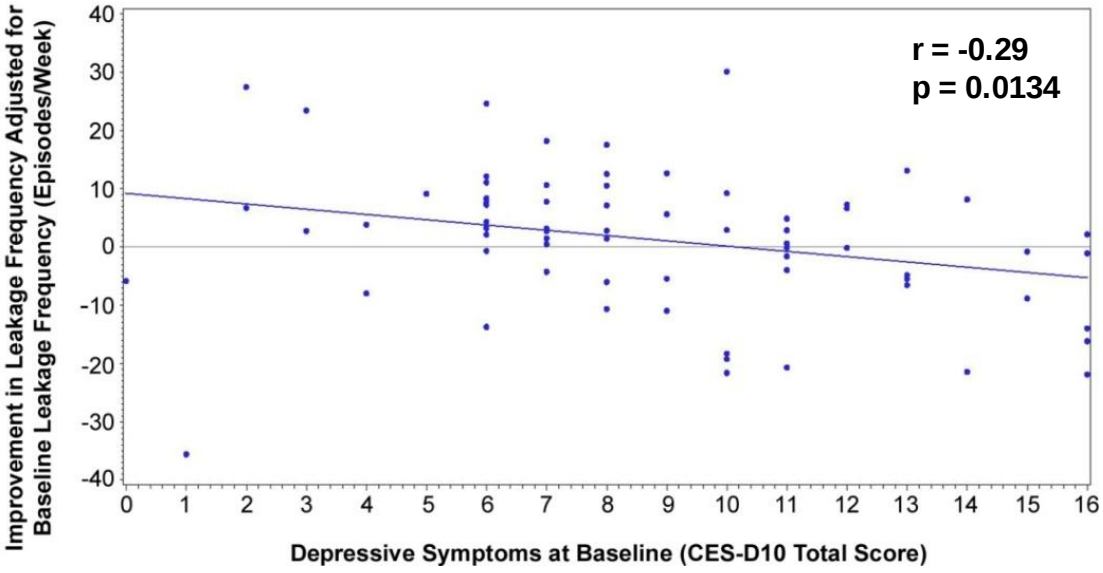
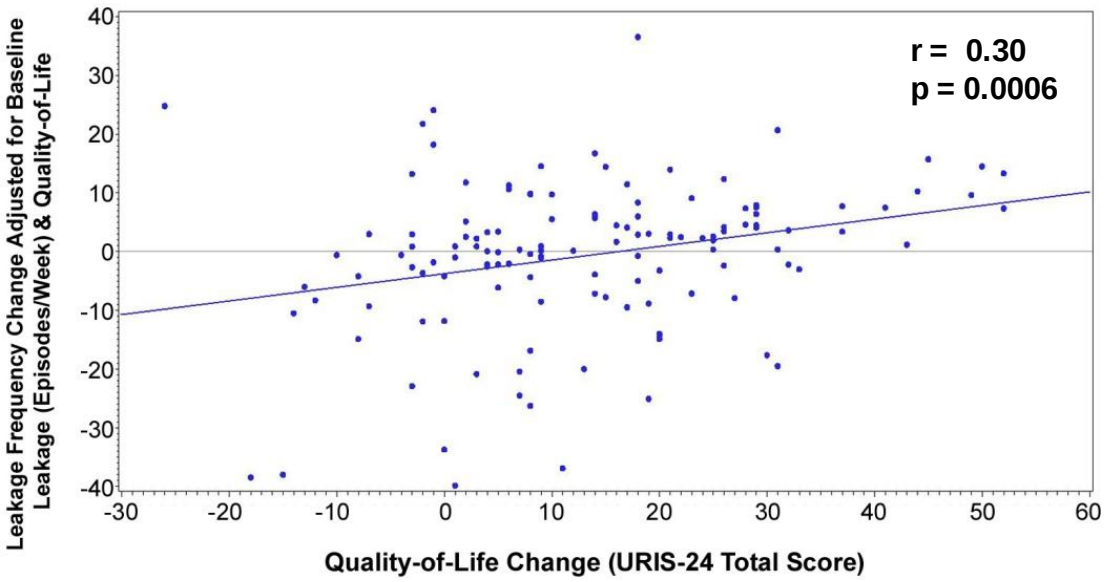


Figure 2. Improvement in quality-of-life **correlates positively** with improvement in urge UI.



Interpretation of results

As postulated, baseline psychological burden impaired therapeutic response, and the magnitude of improvement in psychological burden correlated with the magnitude of improvement in urge UI. One possible explanation is that subjects with baseline depressive symptoms may have less confidence and motivation, both of which are likely crucial for successful learning, performance, and adherence to BFB therapy. A limitation of our study is that it cannot determine whether reduction in psychological burden in response to BFB is a mediator or the result of improved UI.

Concluding message

1. Psychological burden—even in the absence of clinical depression—significantly impairs the response of urge UI to BFB therapy in older women, and improvement in psychological burden correlates with improvement in outcomes of urge UI.

2. Assessment and treatment of psychological burden before or during BFB may significantly improve the efficacy of BFB for urge UI.

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Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**Yes**
Specify Name of Public Registry, Registration Number	**ClinicalTrials.gov (a service of the U.S. National Institutes of Health): NCT00177541**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**University of Pittsburgh Institutional Review Board (IRB).**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**