Perceived Self-Efficacy as a Predictor of Outcome of Pelvic Muscle Exercises in the Treatment of Urinary Incontinence

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Abstract: Perceived self-efficacy (a person's confidence in her ability to perform a specific behavior in a specific situation) is a powerful mediator of health behavior changes in many areas. Despite the increasing attention paid to behavioral therapies for urinary incontinence, perceived self-efficacy has been largely overlooked. This preliminary study was conducted to evaluate the relationship between perceived self-efficacy and the treatment outcome of pelvic muscle exercises. Seventy-one women enrolled in a study assessing the outcome of a 3-month course of pelvic floor muscle exercises completing a self-efficacy questionnaire, which was administered at baseline and 3 weeks into treatment. Sixty-three of the women completed the questionnaire at 3 weeks. The primary outcome measure was number of incontinent episodes per day, as reported on a 3-day voiding diary. We defined improvement as ≥50% reduction in the number of incontinent episodes. There was a negative relationship between self-efficacy expectations at baseline and treatment outcome (r = -0.402). There was a trend toward a relationship between increases in self-efficacy between baseline and 3 weeks and improved treatment outcome (r = 0.312, P <0.07). We examined behavioral factors which might affect exercise continuation, and found that both inaccessibility for telephone follow-up calls and incompletely recorded baseline voiding diary were associated with a higher dropout rate. Our preliminary results, then, are mixed, as we found no relationship between high initial self-efficacy and treatment outcome, but did find a possible association between increases in self-efficacy perception and treatment outcome. Self-efficacy may be another piece in the puzzle of how to improve outcome for non-surgical incontinence treatments, but it needs more evaluation. Our research suggests that healthcare providers should not be reticent to recommend a course of pelvic muscle exercises for those patients who express poor perceived self-efficacy at the outset of treatment. In addition, an incomplete or partially completed voiding diary should serve as a warning that a patient may be a suboptimal candidate for behavioral therapy.

Keywords: Behavioral treatment; Pelvic muscle exercises; Self-efficacy; Urinary incontinence

Introduction

Urinary incontinence is a common condition which can be improved by a wide range of treatment modalities. One of the main differences between surgical and behavioral therapies is that the involvement of the patient in the entire treatment process is integral. Little is known about how patients’ expectations and motivations affect their treatment outcome.

In many domains, a particularly important mediator of outcomes is an individual’s perception of her ability to execute components of the treatment program. Bandura’s concept of perceived self-efficacy [1] refers to a person’s confidence in her ability to organize and execute a course of action required to attain a designated type of performance, (i.e. to perform a specific behavior in a specific situation). This definition recognizes that a person’s confidence in her capabilities may vary significantly from one domain to another [2]. Self-
efficacy expectations are distinguished from outcome expectations, which are beliefs about whether a specified behavior will produce a specified outcome. In other words, the concept of self-efficacy asks 'Can I do it?', whereas outcome efficacy asks 'If I do it, will it help?' Studies that evaluate treatment outcomes for gynecologic conditions address outcome efficacy, but little attention has been paid in our literature to self-efficacy expectations, although self-efficacy is known to be a powerful mediator of health behavior change in areas such as smoking cessation and pain control [3].

Pelvic floor muscle exercises have been reported to improve or cure incontinence in 31%–96% of women with incontinence [4], usually stress incontinence. Most studies report only women who complete an entire course of exercises, so that the actual success rates are lower. In this study we aimed to determine whether perceptions of self-efficacy play a role in the outcome of a 3-month course of pelvic floor muscle exercises; whether perceptions of self-efficacy change after beginning treatment; and whether other demographic or behavioral factors were associated with exercise compliance. If we found an association between self-efficacy expectation and treatment success, outcomes could potentially be improved by identifying measures to improve self-efficacy expectations.

### Materials and Methods

This study was approved by the Human Use Committee at the University of Iowa.

We developed a self-administered questionnaire assessing perceptions of self-efficacy, as well as outcome efficacy expectation and motivation. Responses were assessed using a 100-point scale, ranging in 10% intervals from 'certain I can't do it' (0%) to 'moderately certain I can do it' (50%) to 'completely certain I can do it' for three designated behaviors: remembering to do the exercises (daily, weekly or monthly), filling out a daily written practice log, and performing a certain minimum number of repetitions of the exercises (10, 20, and 30). Two additional questions assessed motivational

### Table 1. Self-efficacy questionnaire

You have been instructed about a program of pelvic floor exercises to reduce your urinary symptoms. We are interested in knowing how confident you feel regarding your ability to do these exercises and how much you feel they will help you. For the following questions, please indicate your confidence level about your ability to do the following behaviors using the 100-point scale below.

<table>
<thead>
<tr>
<th>Certain I can’t do it</th>
<th>Moderately certain I can do it</th>
<th>Completely certain I can do it</th>
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<tbody>
<tr>
<td>0 10 20 30 40 50 60 70 80 90 100</td>
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1. Do you think you can fill out the daily practice log? Yes/No (circle one)  
If Yes, how confident do you feel about your ability to keep the log (on 0–100) scale: _______

2. a. Do you think you can remember to do the pelvic floor exercises daily? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______  
b. Can you remember at least once a week? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______  
c. Can you remember at least once a month? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______

3. a. Do you think that you can do at least 10 repetitions of the exercises? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______  
b. Do you think that you can do at least 20 repetitions of the exercises? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______  
c. Do you think that you can do at least 30 repetitions of the exercises? Yes/No (circle one)  
If Yes, how confident are you about this? (0–100 scale): _______

4. If you perform the exercises as recommended by the physician, do you believe the treatment will . . .  
a. be of no help with your symptoms  
b. be of some help with your symptoms  
c. be of significant help with your symptoms  
d. cure your symptoms

5. How motivated do you feel to conquer your urinary symptoms?  
a. extremely motivated  
b. somewhat motivated  
c. slightly motivated  
d. not at all motivated