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Sperling D[1], Dunn R[1], Wallner L[1], McGuire E[1], Faerber G[1], Wei J[1]
1. *University of Michigan*

EFFECT OF URINARY INCONTINENCE TREATMENT ON DEPRESSION SYMPTOMS

Hypothesis / aims of study

An association between urinary incontinence (UI) and depression has been previously reported. The interaction between the two disorders is of particular importance because women reporting both also report significantly lower quality of life and functional status than those reporting only symptoms of UI[1]. The goal of this study was to determine which type of UI is most associated with depression and whether treatment-related improvements in UI result in similar improvements in depression.

Study design, materials and methods

Women presenting with a chief complaint of urinary incontinence were consented and enrolled in this prospective cohort study. Assessments at baseline and during follow-up after treatment for UI (either pharmacological, behavioural or surgical) ascertained UI symptom severity (using the Incontinence Severity Index (ISI), a validated, 10-item self-administered questionnaire) and depression severity (using the Patient Health Questionnaire (PHQ-9)). The minimally important difference (MID) of each ISI domain has previously been reported, whereas MID for the PHQ was determined as one half standard deviation of the baseline PHQ levels. Logistic regression models were used to evaluate the baseline association of incontinence severity with moderate/severe depression levels (PHQ>10). Mixed regression models were used to assess the relationship of change in UI with a corresponding change in depression severity at 3, 12, and 24 months post-treatment. All models were adjusted for age, BMI, income and education.

Results

85 women, with a median age of 57 years, reported baseline ISI scores ranging from 0 to 32 (maximum possible score), with a mean of 16.9. At baseline, 13% of the participants had moderate/severe depression levels; greater UI was associated with higher levels of depression, with the largest impact seen for Urge UI (odds ratio (OR)=1.4) and Bother (OR=1.6). After UI treatment, improvements in UI were associated with corresponding improvements in depression severity. The effect was largest for Pad Use and Urge UI (Table 1). The proportion of women with moderate/severe depression remains stable (Table 2) even while incontinence symptoms improved (Figure).

Interpretation of results

Prior research has documented an association between UI severity and depression symptoms. Our findings suggest that the improvement in depression following UI treatment, while statistically significant, may not be clinically meaningful given the very small changes in PHQ. This is further supported by the finding that the proportion of women with moderate or severe depression remained fairly consistent over a two year follow up period.

Concluding message

Because UI and depression may have a compounding effect, it is particularly important to try to minimize these symptoms. Better understanding their relationship after treatment may help to reduce their impact on quality of life. Our data suggest that while there may be a statistically significant association between change in UI symptoms and change in depression symptoms following treatment, the effect may not be clinically meaningful.

Table 1: Association of Change in UI with Change in Depression

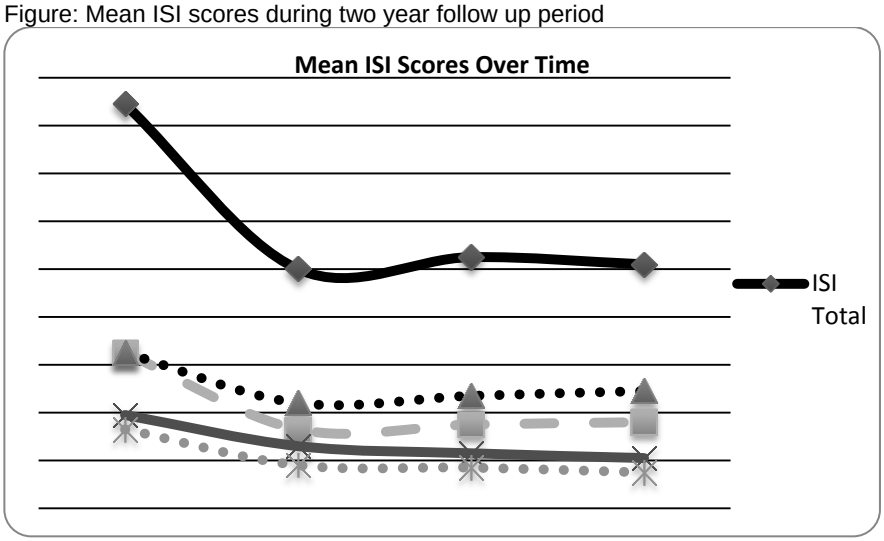
	MID*	Absolute improvement in PHQ score per MID Improvement in ISI**	P-value
Total ISI	4	0.36	0.005
Stress UI	2	0.34	0.009
Urge UI	2	0.42	0.011
Bother	1	0.31	<0.001
Pad Use	1	0.48	0.012

*Minimally Important Difference.
** Adjusted for age, BMI, income, and education level.

Table 2: Depression levels at baseline and during follow-up after UI treatment

	Baseline (n=80)	3 months (n=85)	12 months (n=78)	24 months (n=67)
No-mild Depression (PHQ 1-9)	87.5%	88.2%	85.9%	88.1%
Mod-Severe Depression (PHQ ≥10)	12.5%	11.8%	14.1%	11.9%

Figure: Mean ISI scores during two year follow up period



References

1. Melville JL, Katon W, Delaney K, Newton K. Urinary Incontinence in US Women: A Population-Based Study, Arch Intern Med. 2005;165(5):537-542.

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Was this study approved by an ethics committee?	**Yes**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**