



Exploring the Impact of Pain Catastrophizing on Quality of Life in Women with Overactive Bladder: A Cross-Sectional Study

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Hypothesis / Aims of Study

Overactive Bladder (OAB) is a common urological condition that significantly disrupts daily life, affecting an estimated 20% of the global population. It notably diminishes quality of life (QoL), impacting physical, emotional, and mental well-being. This study explores the psychological aspect of OAB, focusing on the role of pain catastrophizing—a cognitive pattern characterized by an exaggerated negative outlook on pain. This pattern is known to increase pain perception and promote feelings of helplessness, thereby further reducing QoL. Although research has typically associated catastrophizing with pain-related disorders, its relationship with OAB and its effect on patients' QoL has not been thoroughly examined. Our study seeks to address this gap by investigating how catastrophizing thought patterns in women with OAB affect their QoL, aiming to provide new insights into the complex relationship between psychological factors and this debilitating condition.

Study Design, Materials and Methods

A cross-sectional study. Participants were recruited from a single tertiary urogynecology and pelvic floor outpatient clinic at Soroka University Medical Center, Beer Sheva, Israel. The exclusion criteria were active urinary tract infections, pregnancy, and being under 18 years of age. Participants were given a modified set of questionnaires—including adapted Pain Catastrophizing (PCS), the Pelvic Floor Disability Index (PFDI-20), the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12), and the Incontinence Impact Questionnaire (IIQ-7)—to measure the degree of catastrophizing, their ability to manage pain, and the impact of OAB on their QoL.

After recruitment, participants were divided into groups based on the median PCS scores to compare those with catastrophizing thought patterns to those without. Spearman's correlation coefficient was used to explore the relationship between catastrophizing and QoL. Univariate analysis was conducted, followed by multivariable linear regression, to clarify the association between catastrophizing and QoL.

Results

The median PCS score was 37. Forty-one patients scored below 37 and were allocated to the non-catastrophizing group, versus 44 patients who scored ≥ 37 and were allocated to the catastrophizing group. Overall, the groups did not differ in most demographic parameters; age, BMI, ethnicity, and menopausal status were not significantly different between the groups. Notably, in the catastrophizing group, the rate of patients being treated for OAB was significantly higher (75% vs. 53.5%, $p=0.04$), as well as the number of episodes of urge urinary incontinence per week (median of 21 vs. 4, $p<0.01$, respectively). When comparing the total questionnaire scores between the two groups, the median IIQ-7 was significantly higher among catastrophizing patients (13.00 vs. 2.00, $p<0.01$). When examining each question separately, catastrophizing patients scored significantly higher compared to non-catastrophizing ones. The correlation between PCS score and IIQ-7 score was significantly positive (Spearman's coefficient 0.60). Lastly, in analyzing the determinants of quality of life, our linear regression model revealed a significant and positive relationship with catastrophization scores, controlling for age and treatment for OAB ($p < 0.01$). This effect was further substantiated by an unstandardized regression coefficient (B) of 0.302 (95% confidence interval 0.207-0.397), suggesting that as catastrophization increases, so does the reported quality of life scores (e.g., reduced QoL). The median total questionnaire score for PFDI-20 was also found to be higher in the catastrophizing group (24.0 vs. 18.0, $p<0.01$). Notably, no difference was found in PISQ-12 scores between the groups.

Interpretation of Results

Our study reveals a significant association between pain catastrophizing and the reduced QoL in women with OAB, illustrating that those with higher levels of catastrophizing report more severe symptoms and a higher rate of treatment for OAB. This indicates that psychological factors, particularly the tendency to catastrophize pain, play a substantial role in the perception and management of OAB symptoms, beyond the physical aspects of the condition.

The association between catastrophizing and lower QoL scores, even after adjusting for factors like age and OAB treatment, highlights the need for a multifaceted approach to managing OAB that includes psychological support. The findings suggest that addressing pain catastrophizing could enhance treatment outcomes and improve the overall well-being of individuals with OAB.

Conclusions

This study underscores the critical role of psychological factors, specifically pain catastrophizing, in influencing the quality of life among women with Overactive Bladder. It highlights the necessity for healthcare providers to incorporate psychological assessments and interventions into OAB management strategies. Addressing the cognitive and emotional aspects of OAB can lead to more comprehensive care, potentially improving both symptom management and patients' quality of life. Future research should further explore the relationship between psychological factors and various aspects of OAB to develop holistic treatment approaches that cater to the physical and psychological needs of patients.

Table 1: Comparison of Quality of Life (QoL) Questionnaire Scores Between Groups with and without Catastrophizing

Question, median (IQR)	None-catastrophizing, N=41	Catastrophizing, N=44	P value
Has OAB affected your ability to do household chores (cooking, housecleaning, laundry)?	0 (0-1)	2 (0-3)	<0.01
Has OAB affected your physical recreation such as walking, swimming, or other exercise?	1 (0-2)	0.5 (0-3)	<0.01
Has OAB affected your entertaining activities (movies, concerts, etc.)?	0 (0-1)	3 (0-3)	<0.01
Has OAB affected your ability to travel by car or bus more than 30 minutes from home?	0 (0-2)	2 (0-3)	<0.01
Has OAB affected your participation in social activities outside your home?	0 (0-1)	2 (1-3)	<0.01
Has OAB affected your emotional health (nervousness, depression, etc.)?	0 (0-0.5)	1.5 (0-2.75)	<0.01
Has OAB made you frustrated?	0 (0-2)	3 (0.25-3)	<0.01