Clinical Study Abstract for Better Bladder™

Background: Symptoms of overactive bladder (OAB) and urinary incontinence (UI) affect millions of people worldwide, significantly impacting quality of life. Plant based medicines have been documented both empirically and in emerging scientific research to have varying benefits in reducing bladder symptoms. This study assessed the efficacy of Better Bladder, a combination of phytomedicine extracts, Cratevox (Crateva nurvala), Equisetem arvense and Lindera aggregata, formulated to reduce UI and symptoms of OAB such as urinary frequency and/or urgency.

Methods and Findings: : Effects of the herbal combination of crateva, horsetail and lindera on a variety of bladder symptoms compared to an identical placebo, were documented in a randomized, double-blind, placebo controlled trial (n=150). Data were collected at baseline, 2, 4 and 8 weeks. No significant side effects were observed resulting in withdrawal from treatment. Statistical analysis included ordered logistic regression, adjusted for repeated measures to compare mixed effects. At week 8, urinary day frequency was significantly lower (OR 0.01; 95%CI 0.004 to 0.075; p<0.001) in response to treatment (mean ±SD; 7.69 ± 2.15/day) compared to placebo (10.95 ± 2.47/day). Similarly, episodes of nocturia were significantly lower (OR 0.03; 95%CI 0.02 to 0.05) after 8 weeks of treatment (2.16 ± 1.49) versus placebo (3.11 ± 1.37). Symptoms of urgency (OR 0.02; 95%CI 0.004 to 0.04), urgency incontinence (OR 0.04; 95% CI 0.01 to 0.15) and stress incontinence (OR 0.03; 95%CI 0.002 to 0.4) were also significantly lower (all p<0.01) in the treatment group. Significant improvements in quality of life were also reported after treatment in comparison to placebo.

Conclusions: The outcome of this study demonstrated both statistical significance and clinical relevance in reducing UI and symptoms of OAB, such as urinary frequency and/or urgency.

Independent Statistical Analysis

Overactive Bladder and Urinary Incontinence Symptoms Frequency

Variable	Placebo (mean ± SD)	Better Bladder (mean ± SD)	OR (95% CI) Placebo vs treatment	OR (95% CI) Without correction	p-value
Day frequency (n/day)					
week 0	11.57 ± 1.79	11.53 ± 1.54	0.95 (0.33 to 2.73)	0.98 (0.824 to 1.157)	0.831
week 2	10.80 ± 2.44	8.94 ± 2.28	0.07 (0.04 to 0.13)*	0.68 (0.601 to 0.763)	<0.001
week 4	10.60 ± 2.42	8.42 ± 2.46	0.04 (0.02 to 0.08)*	0.66 (0.582 to 0.739)	<0.001
week 8	10.95 ± 2.47	7.69 ± 2.15	0.01 (0.01 to 0.02)*	0.49 (0.419 to 0.575)	<0.001
Nocturia (n/day)					
week 0	3.39 ± 1.52	4.02 ± 1.62	3.59 (1.39 to 9.21)*	1.42 (1.202 to 1.678)	<0.001
week 2	2.94 ± 1.37	3.18 ± 1.72	0.40 (0.24 to 0.69)*	1.13 (0.980 to 1.310)	0.122
week 4	2.92 ± 1.30	2.70 ± 1.52	0.14 (0.08 to 0.24)*	0.88 (0.756 to 1.025)	0.124
week 8	3.14 ± 1.36	2.16 ± 1.49	0.03 (0.02 to 0.05)*	0.55 (0.462 to 0.663)	<0.001
Urgency (n/day)					
week 0	4.34 ± 2.89	3.80 ± 1.82	0.67 (0.23 to 1.94)	0.91 (0.832 to 0.993)	0.032
week 2	3.65 ± 2.62	2.32 ± 2.09	0.16 (0.09 to 0.27)*	0.77 (0.699 to 0.857)	<0.001

week 4	3.52 ± 2.68	1.88 ± 2.25	0.08 (0.04 to 0.13)*	0.73 (0.647 to 0.812)	<0.001
week 8	3.92 ± 2.87	1.49 ± 2.31	0.02 (0.01 to 0.03)*	0.61(0.528 to 0.694)	<0.001
Urgency Incontinence (n/day)					
week 0	2.71 ± 2.68	2.79 ± 1.50	1.70 (0.53 to 5.40)	1.02 (0.894 to 1.160)	0.787
week 2	2.32 ± 1.54	1.85 ± 1.78	0.19 (0.09 to 0.40)*	0.84 90.700 to 1.004)	0.050
week 4	1.82 ± 1.33	1.53 ± 2.41	0.19 (0.09 to 0.40)*	0.92 (0.790 to 1.078)	0.302
week 8	2.44 ± 2.38	1.24 ± 2.49	0.04 (0.02 to 0.09)*	0.755 (0.630 to 0.906)	0.001
Stress Incontinence (n/day)					
week 0	2.19 ± 1.50	2.13 ± 1.14	0.97 (0.11 to 8.65)	0.97 (0.649 to 1.448)	0.883
week 2	1.70 ± 1.49	1.27 ± 1.29	0.30 (0.07 to 1.29)	0.79 (0.532 to 1.172)	0.239
week 4	1.85 ± 1.29	0.77 ± 0.94	0.06 (0.01 to 0.25)*	0.35 (0.177 to 0.708)	0.001
week 8	2.04 ± 1.51	0.73 ± 0.87	0.03 (0.01 to 0.15)*	0.37 (0.199 to 0.695)	<0.001
Total Incontinence (n/day)					
week 0	2.95 ± 2.65	3.31 ± 2.12	1.97 (0.65 to 5.98)	1.06 (0.953 to 1.185)	0.272
week 2	2.56 ± 1.62	2.20 ± 2.09	0.23 (0.11 to 0.45)*	0.90 (0.775 to 1.040)	0.147
week 4	2.14 ± 1.42	1.74 ± 2.68	0.14 (0.07 to 0.27)*	0.91 (0.786 to 1.043)	0.392
week 8	2.70 ± 2.25	1.38 ± 2.76	0.03 (0.01 to 0.06)*	0.73 (0.613 to 0.861)	<0.001

Percentage of Subjects Reporting Improvement in Symptom For Each Time Period

Variable	Baseline measure versus follow-up period percent improved		
	2 weeks	4 weeks	8 weeks
Day frequency	86.0	88.0	90.0
Night frequency	72.9	81.4	84.3
Urgency	79.4	87.3	85.7
Urgency incontinence	78.1	81.2	84.4
Total incontinence	84.1	90.2	93.5