

Table 2. Epidemiologic studies identifying the prevalence of IC/PBS symptoms

Reference	Sample	Definition	Prevalence
Leppilahti ⁵¹	Mailed questionnaire to 1331 Finnish women aged 18-71 (mean not reported)	Interstitial Cystitis Symptom Index and Problem Index scores of 12+, including nocturia ≥ 2 and pain ≥ 2	0.45%
Clemens ¹⁷	Mailed questionnaire to 3504 enrollees aged 25-80 (mean age 59 in men and 55 in women) in a managed care plan in the Portland, OR metropolitan area	1) Pelvic pain of ≥ 3 months duration plus urgency or frequency ≥ 3 months duration 2) Same criteria plus pain increasing as the bladder fills or pain relieved by urination	6.2-11.2% in women; 2.3-4.6% in men
Clemens ³⁰	Direct interviews in a sample of 5506 Black, Hispanic and white women aged 30-79 (mean 49.2) in the Boston metropolitan area	Multiple	0.8- 2.7% in women; 0.3 - 1.2% in men
Lifford ⁵²	Female participants in the Nurses Health Study, aged 58-83 (mean not reported)	“In the last 10 years, have you experienced pain, discomfort or burning in your pelvis or bladder for more than 3 months in a row and accompanied by urinary frequency?”	2.3%
Temml ⁵³	In-person questionnaire completed by 981 women aged 19-89 (mean 49.1) attending a voluntary health screening project in Vienna, Austria	Interstitial Cystitis Symptom Index and Problem Index scores of 12+, including nocturia ≥ 2 and pain ≥ 2	0.3%

References

17. Clemens JQ, Meenan R, O’Keeffe Rosetti MC, et al: Prevalence of interstitial cystitis symptoms in a managed care population. *J Urol* 2005; **174**: 576.
30. Clemens JQ, Link CL, Eggers PW, et al: Prevalence of painful bladder symptoms and effect on quality of life in black, Hispanic and white men and women. *J Urol* 2007; **177**: 1390.
51. Leppilahti M, Tammela TL, Huhtala H, et al: Prevalence of symptoms related to interstitial cystitis in women: A population based study in Finland. *J Urol* 2002; **168**: 139.
52. Lifford KL and Curhan GC: Prevalence of painful bladder syndrome in older women. *J Urol* 2008; **73**: 494.
53. Temml C, Wehrberger C, Riedl C, et al: Prevalence and correlates for interstitial cystitis symptoms in women participating in a health screening project. *Eur Urol* 2007; **51**: 803.

Table 3. Epidemiologic studies identifying the prevalence of prostatitis symptoms

Reference	Sample	Definition	Prevalence
Nickel ¹³	Postal survey of 868 men in eastern Canada aged 20-74 (mean 52.9)	NIH-CPSI responses indicating perineal or ejaculatory pain, plus a score of >4 on the NIH-CPSI pain subscale	9.7%
Roberts ⁵⁴	Postal survey of 1541 men aged 40-89 (mean 62.9) in Olmsted County, MN	Same	2.3%
Clemens ⁵⁵	Postal survey of 1550 men aged 25-80 (mean 59) enrolled in a managed care health plan in the Portland, OR area	Same	5.9%
Walz ⁵⁶	Direct survey of 1273 men aged 40-89 (mean 57.6) attending a 2-day prostate cancer awareness week in Montreal	Same	10.5%
Daniels ³¹	Direct survey of 2301 white, black and Hispanic men aged 30-79 (mean 47.6) in the Boston area	Same	6.3%
Tripp ⁵⁷	Direct survey of 246 Canadian adolescents aged 16-19 (mean 17.6) at high schools and universities	Same	8.3%
Liang ⁵⁸	Direct survey of 12,743 male volunteers aged 15-60 (mean 33.8) in cities and provinces throughout China	Same	8.4%
Kunishima ⁵⁹	Postal survey of 512 men aged 20-79 (mean 52.5) in a single town in Japan	Same	4.9%
Marszalek ⁶⁰	Direct survey of 1765 men aged 20-79 (mean 46.3) participating in a voluntary health examination in Vienna	Same	2.7%
Cheah ⁶¹	Direct survey of 3147 men aged 20-50 (median 34) recruited from hospitals, army camps and the state university in Penang, Malaysia	Presence of any of the following for a duration of 3 or more months: pain in the perineum, testicles, tip of penis, pubic or bladder area, dysuria, or ejaculatory pain	8.7%
Tan ⁶²	Direct survey of 1087 men aged 21-70 (mean 41.7) in Singapore	Pain or discomfort in the perineum, testicles, tip of penis, pubic or bladder area, or dysuria	2.7%
Ejike ⁶³	Direct survey of 1507 men aged 20-70 (mean 41) living in a single Nigerian town	Score of >4 on the NIH-CPSI pain subscale	12.2%
Ku ⁶⁴	Direct survey of 6940 20-year old South Korean military conscripts	Pain or discomfort in more than one area on the NIH-CPSI pain subscale	6.0%

References

13. Nickel JC, Downey J, Hunter D, et al: Prevalence of prostatitis-like symptoms in a population based study using the National Institutes of Health chronic prostatitis symptom index. *J Urol* 2001; **165**: 842.
31. Daniels NA, Link CL, Barry MJ, et al: Association between past urinary tract infections and current symptoms suggestive chronic prostatitis/chronic pelvic pain syndrome. *J Natl Med Assoc* 2007; **99**: 509.
54. Roberts RO, Jacobson DJ, Girman CJ, et al: Prevalence of prostatitis-like symptoms in a community bases cohort of older men. *J Urol* 2002; **168**: 2467.
55. Clemens JQ, Meenan RT, O'Keefe-Rosetti MC, et al: Prevalence of prostatitis-like symptoms in a managed care population. *J Urol* 2006; **176**: 593.
56. Walz J, Perrotte P, Hutterer G, et al: Impact of chronic prostatitis-like symptoms on the quality of life in a large group of men. *BJU Intl* 2007; **100**: 1307.
57. Tripp D, Nickel JC, Ross S, et al: Prevalence, symptom impact and predictors of chronic prostatitis-like symptoms in Canadian males aged 16-19 years. *BJU Intl* 2008; **103**: 1080.
58. Liang C, Li H, Wang Z, et al: The prevalence of prostatitis-like symptoms in China. *J Urol* 2009; **182**: 558.
59. Kunishima Y, Mori M, Kitamura H, et al: Prevalence of prostatitis-like symptoms in Japanese men: population-based study in a town in Hokkaido. *Intl J Urol* 2006; **13**: 1286.
60. Marszalek M, Wehrberger C, Hochreiter W, et al: Symptoms suggestive of chronic pelvic pain syndrome in an urban population: Prevalence and associations with lower urinary tract symptoms and erectile function. *J Urol* 2007; **177**: 1815.
61. Cheah PY, Liong ML, Yuen KH, et al: Chronic prostatitis: Symptom survey with follow-up clinical evaluation. *Urology* 2003; **61**: 60.
62. Tan JK, Png DJC, Liew LCH, et al: Prevalence of prostatitis-like symptoms in Singapore: A population-based study. *Singapore Med J* 2002; **43**: 189.
63. Ejike C and Ezeanyika L: Prevalence of chronic prostatitis symptoms in a randomly surveyed adult population of urban-community-dwelling Nigerian males. *Intl J Urol* 2008; **15**: 340.
64. Ku JH, Kim ME, Lee NK, et al: The prevalence of chronic prostatitis-like symptoms in young men: A community-based survey. *Urol Res* 2001; **29**: 108.

Table 4. Epidemiologic studies identifying the prevalence of urinary urgency symptoms

Reference	Sample	Definition	Prevalence
Stewart ⁶⁵	Telephone survey of 5204 U.S. adults aged ≥ 18	Urgency >4 times in the past 4 weeks along with either frequency ≥ 8 times per day or the use of coping strategies	16.5% overall 16.0% men 16.9% women
Irwin ⁶⁶	Telephone survey of 19,165 adults aged ≥ 18 in Canada, Germany, Italy, Sweden and the United Kingdom (UK)	“Do you experience the sudden, compelling desire to urinate which is difficult to put off? What I mean is a sudden intense feeling of urgency where you feel you must urinate immediately?”	11.8% overall 10.8% men 12.8% women
Milson ⁶⁷	Survey of 16,776 adults aged ≥ 40 in France, Germany, Italy, Spain, Sweden and the UK. Interviews were conducted by telephone, except in Spain, where direct interviews were performed.	Frequency >8 times during the day, or ≥ 2 episodes of nocturia, or urgency (positive response to any of 3 defining questions) or urge incontinence (positive response to any of 4 defining questions)	16.6% overall 15.6% men 17.4% women
Coyne ⁴	Internet survey of 30,000 adults aged ≥ 40 (mean 56.5 in men and 56.7 in women) in the US, the UK and Sweden	“During the past 4 weeks, have you had the sudden need to rush to urinate? By sudden need to rush to urinate we mean a sudden intense feeling of urgency where you feel you must urinate immediately.” Participants were then asked how frequently the symptom occurred (never, rarely, sometimes, often, almost always). The prevalence of urgency that occurred at least ‘sometimes’ was reported.	22.4% men 35.7% women
Temml ⁶⁸	Direct survey of 1199 men and 1219 women attending a voluntary health screening project in Vienna	Urgency (“Do you have to rush to go to the toilet?” – occasionally, frequently or always), along with either frequency (voiding every 3 hours or more often) or nocturia (2+)	10.2% men 16.8% women
Corcos ⁶⁹	Computer-assisted telephone survey of 3249 adults aged ≥ 35 (mean 52.0 in men and 50.9 in women) in Canadian metropolitan areas	Urgent need to urinate to such a point that they run the risk of involuntary urine loss, occurring at least “4 times over the past 4 weeks”, or Difficulty postponing urination at least “less than 1 time in 5” combined with bathroom seeking behavior	13.6% overall 11.7% men 15.6% women
Herschorn ⁷⁰	Telephone survey of 1000 adults aged ≥ 18 in Canada	“Do you currently experience a sudden and strong need to urinate?”	15.1% overall 16.2% men 14.1% women
Perry ⁷¹	Postal survey of 10,116 adults aged 40+ in Leicestershire, UK	Urgency either ‘most of the time’ or ‘overwhelming’	7.3% overall 5.4% men 8.8% women

Safarinejad ⁷²	Direct interviews of 7806 women aged 15-55 (mean 36) in Iran	Urgency (“Do you have to rush to go to the toilet?” – occasionally, frequently or always), along with either frequency (voiding every 3 hours or more often) or nocturia (2+)	18.2% women
Zhang ⁷³	Postal survey of 4684 female residents aged 20+ (mean 40.0) in Fuzhou, China	Urgency (“Do you have to rush to go to the toilet?” – occasionally, frequently or always), along with either frequency (voiding every 3 hours or more often) or nocturia (2+)	8.0% women
Teloken ⁷⁴	Direct survey of 848 residents of Porto Alegre, Brazil aged 15-55 (mean not reported)	“Do you experience the sudden compelling desire to pass urine, which is difficult to defer?”	18.9% overall 14.0% men 23.2% women
Choo ⁷⁵	Telephone survey of 2005 adults aged 40-89 (mean 59.7) in South Korea	Urgency (“Do you have to rush to go to the toilet?”), along with either frequency (8+ per 24-hour period) or nocturia (1+)	13.3% men 16.3% women
Chen ⁷⁶	Direct survey in a random sample of 1253 women aged 20+ (mean 43.2) who were residents of Dali, Taiwan	“Do you have to rush to get to the toilet?”	12.6% women
Yu ⁷⁷	Direct survey of 1827 residents of the rural community of Matsu, Taiwan (mean age 50.1, range 30-79)	Urgency (some of the time or greater) along with either frequency (some of the time or greater) or nocturia (≥ 2 episodes)	16.9% overall 16.0% men 18.3% women

References

4. Coyne KS, Sexton CC, Thompson CL, et al: The prevalence of lower urinary tract symptoms (LUTS) in the USA, the UK and Sweden: Results from the epidemiology of LUTS (EpiLUTS) study. *BJU Intl* 2009; **104**: 352.
65. Stewart WF, Van Rooyen JB, Cundiff GW, et al: Prevalence and burden of overactive bladder in the United States. *World J Urol* 2003; **20**: 327.
66. Irwin DE, Milsom I, Hunskaar S, et al: Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: Results of the EPIC study. *Eur Urol* 2006; **50**: 1306.
67. Milsom I, Abrams P, Cardozo L, et al: How widespread are the symptoms of an overactive bladder and how are they managed? A population-based prevalence study. *BJU Intl* 2001; **87**: 760.
68. Temml C, Heidler S, Ponholzer A, et al: Prevalence of the overactive bladder syndrome by applying the International Continence Society definition. *Eur Urology* 2005; **48**: 622.
69. Corcos J and Schick E: Prevalence of overactive bladder and incontinence in Canada. *Canadian J Urol* 2004; **11**: 2278.
70. Herschorn S, Gajewski J, Schulz J, et al: A population-based study of urinary symptoms and incontinence: the Canadian urinary bladder survey. *BJU Intl* 2007; **101**: 52.
71. Perry S, Shaw C, Assassa P, et al: An epidemiological study to establish the prevalence of urinary symptoms and felt need in the community: the Leicestershire MRC incontinence study. *J Pub Health Med* 2000; **22**: 427.
72. Safarinejad M: Prevalence of the overactive bladder among Iranian women based on the International Continence Society definition: A population-based study. *Intl J Urol Nephrol* 2009; **41**: 35.
73. Zhang W, Song Y, He X, et al: Prevalence and risk factors of overactive bladder syndrome in Fuzhou Chinese women. *Neurourol Urodyn* 2006; **25**: 717.
74. Teloken C, Caraver F, Weber F, et al: Overactive bladder: Prevalence and implications in Brazil. *Eur Urol* 2006; **49**: 1087.
75. Choo MS, Ku JH, Lee JB, et al: Cross-cultural differences for adapting overactive bladder symptoms: Results of an epidemiologic survey in Korea. *World J Urol* 2007; **25**: 505.
76. Chen G, Lin T, Hu S, et al: Prevalence and correlation of urinary incontinence and overactive bladder in Taiwanese women. *Neurourol Urodyn* 2003; **22**: 109.
77. Yu H, Liu C, Lee K, et al: Overactive bladder syndrome among community-dwelling adults in Taiwan: Prevalence, correlates, perception, and treatment seeking. *Urologia Internationalis* 2006; **77**: 327.

Table 5. Medical conditions which have been associated with afferent urologic disorders

IC/PBS	CP/CPPS	Urgency/OAB
<ul style="list-style-type: none"> - Allergies^{78, 79} - Anxiety/ depression⁸⁰⁻⁸⁵ - Back pain^{80,86} - Noncardiac chest pain⁸⁶ - Dyspepsia⁸⁰ - Fatigue/ sleep disturbances^{79,80} - Gastroesophageal reflux⁸⁰ - Headache^{79,80,86} - Irritable bowel syndrome^{78-80,82} - Endometriosis^{80,85} - Fibromyalgia^{78-80,87} - Vulvodynia^{78,85,88} - Sjogren's/ sicca syndrome⁷⁹ 	<ul style="list-style-type: none"> - Allergies⁸⁹ - Anxiety/ depression^{22,81,89-95} - Back pain²² - Noncardiac chest pain²² - Dyspepsia²² - Fatigue/ sleep disturbances²² - Gastroesophageal reflux²² - Headache²² - Irritable bowel syndrome²² - Benign prostatic hyperplasia^{8,10,22} 	<ul style="list-style-type: none"> - Anxiety/ depression^{96,97} - Fatigue/ sleep disturbances^{96,98} - Irritable bowel syndrome^{96,99,100}

References

8. McNaughton-Collins M, Meigs JB, Barry MJ, et al: Prevalence and correlates of prostatitis in the health professionals follow-up study cohort. *J Urol* 2002; **167**: 1363.
10. Wallner LP, Clemens JQ and Sarma AV: Prevalence of and risk factors for prostatitis in African American men: The Flint mens health study. *The Prostate* 2009; **69**: 24.
22. Clemens JQ, Meenan RT, O'Keeffe MC, et al: Prevalence of and risk factors for prostatitis: Population based assessment using physician assigned diagnoses. *J Urol* 2007; **178**: 1333.
78. Alagiri M, Chottiner S, Ratner V, et al: Interstitial cystitis: Unexplained associations with other chronic disease and pain syndromes. *Urology* 1997; **49**:52.
79. Warren JW, Howard FM, Cross RK, et al: Antecedent nonbladder syndromes in case-control study of interstitial cystitis/painful bladder syndrome. *Urology* 2009; **73**: 52.
80. Clemens JQ, Meenan RT, O'Keeffe Rosetti MC, et al: Case-control study of medical comorbidities in women with interstitial cystitis. *J Urol* 2008; **179**: 2222.
81. Clemens JQ, Brown SO and Calhoun EA: Mental health diagnoses in patients with interstitial cystitis/ painful bladder syndrome and chronic prostatitis/ chronic pelvic pain syndrome: A case/control study. *J Urol* 2008; **180**: 1378.
82. Novi JM, Jeronis S, Srinivas S, et al: Risk of irritable bowel syndrome and depression in women with interstitial cystitis: A case-control study. *J Urol* 2005; **174**: 937.
83. Weissman MM, Gross R, Fyer A, et al: Interstitial cystitis and panic disorder. *Arch Gen Psych* 2004; **61**: 273.

84. Rothrock NE, Lutgendorf SK, Hoffman A, et al: Depressive symptoms and quality of life in patients with interstitial cystitis. *J Urol* 2002; **167**: 1763.
85. Wu EQ, Birnbaum H, Mareva M, et al: Interstitial cystitis: Cost, treatment and comorbidities in an employed population. *Pharmacoeconomics* 2006; **24**: 55.
86. Erickson DR, Morgan KC, Ordille S, et al: Nonbladder related symptoms in patients with interstitial cystitis. *J Urol* 2001; **166**: 557.
87. Clauw DJ, Schmidt M, Radulovic D, et al: The relationship between fibromyalgia and interstitial cystitis. *J Psychiatr Res* 1997; **31**: 125.
88. Peters K, Girdler B, Carrico D, et al: Painful bladder syndrome/interstitial cystitis and vulvodynia: A clinical correlation. *Intl Urogynecol J* 2008; **19**: 665.
89. Pontari MA, McNaughton-Collins M, O'Leary MP, et al: A case-control study of risk factors in men with chronic pelvic pain syndrome. *BJU Intl* 2005; **96**: 559.
90. Berghuis JP, Heiman JR, Rothman I, et al: Psychological and physical factors involved in chronic idiopathic prostatitis. *J Psychosom Research* 1996; **41**: 313.
91. de la Rosette JJ, Ruijgrok MC, Jeuken JM, et al: Personality variables involved in chronic prostatitis. *Urology* 1993; **42**: 654.
92. Ku JH, Jeon YS, Kim ME, et al: Psychological problems in young men with chronic prostatitis-like symptoms. *Scand J Urol Nephrol* 2002; **36**: 296.
93. Daniels NA, Ewing SK, Zmuda JM, et al: Correlates and prevalence of prostatitis in a large community-based cohort of older men. *Urology* 2005; **66**: 964.
94. Ku JH., Kim SW and Paick JS: Quality of life and psychological factors in chronic prostatitis/chronic pelvic pain syndrome. *Urology* 2005; **66**: 693.
95. Mehik A, Hellstrom P, Sarpola A, et al: Fears, sexual disturbances and personality features in men with prostatitis: a population-based cross-sectional study in Finland. *BJU Intl* 2001; **88**: 35.
96. Coyne KS, Kaplan SA, Chapple CR, et al: Risk factors and comorbid conditions associated with lower urinary tract symptoms. *BJU Intl* 2009; **103 (Suppl 3)**: 24.
97. Hullfish KL, Fenner DE, Sorser SA, et al: Postpartum depression, urge urinary incontinence, and overactive bladder: Is there an association? *Intl Urogynecol J* 2007; **18**: 1121.
98. Brown JS, McGhan WF and Chakroverty S: Comorbidities associated with overactive bladder. *Am J Managed Care* 2000; **5 (Suppl)** :S574.
99. Sutherland SE, Lavers A, Carlson A, et al: Sacral nerve stimulation for voiding dysfunction: One institution's 11-year experience. *Neurourol Urodyn* 2007; **26**:19.
100. McGrother CW, Donaldson MMK, Hayward T, et al: Urinary storage symptoms and comorbidities: A prospective population cohort study in middle-aged and older women. *Age and Ageing* 2006; **35**: 16.