

COMORBIDITIES ASSOCIATED WITH OVERACTIVE BLADDER: RESULTS FROM THE EPIC STUDY

Hypothesis / aims of study

A multinational study evaluated the prevalence and burden of overactive bladder (OAB) among respondents ≥ 18 years of age. This analysis evaluates factors associated with OAB symptoms.

Study design, materials and methods

The EPIC study was a cross-sectional, population-based survey of adults in 5 countries¹ (N=19,165). Computer-assisted telephone interviews were conducted with a geographically stratified random sample of the population. International Continence Society definitions² of OAB and lower urinary tract symptoms were used to classify participants. A nested case-control analysis was performed on data collected from participants with OAB (cases; n=1434) and without OAB (controls; n=1434). Cases and controls were matched on gender, country, and 5-year age groups. Participants were asked to report a history of chronic constipation or physician diagnoses of asthma, diabetes, hypertension, neurologic conditions (multiple sclerosis, stroke, Parkinsonism), or depression. Respondents also noted their height, weight, and diuretic use. Body Mass Index (BMI) was calculated according to the World Health Organization criteria³ and participants were classified as underweight, normal weight, overweight, obese, or very obese. Prevalence odds ratios and 95% confidence intervals were calculated using logistic regression models.

Results

Several factors were significantly associated with reported OAB in bivariate analyses (**Table 1**). In multivariate analyses, neurologic conditions, chronic constipation, depression, and obesity were significantly associated with OAB after controlling for age, gender, and country (**Table 2**). Smoking status, diuretic use, asthma, diabetes, and hypertension were not significantly associated with OAB and did not add precision to the model.

Interpretation of results

Several common chronic health conditions were significantly more prevalent in cases than controls, including chronic constipation, neurologic conditions, depression, and obesity even after adjusting for covariates such as gender, age, and country.

Concluding message

Further research is needed to examine comorbid conditions and BMI as potential risk factors for OAB.

References

1. Eur Urol (2006) 50;1306–1315.
2. Neurourol Urodyn (2002) 21;167–178.
3. http://www.euro.who.int/nutrition/20030507_1

Table 1. Characteristics of OAB Cases and Controls

Characteristic, n (%)	OAB Cases		Controls	
	Men (n=502)	Women (n=932)	Men (n=502)	Women (n=932)
Age Group, y				
<50	174 (34.7)	380 (40.8)	174 (34.7)	380 (40.8)
≥50	328 (65.3)	552 (59.2)	328 (65.3)	552 (59.2)
Marital status*	299 (59.6) [†]	573 (61.5)	347 (69.1)	581 (62.3)
Race/Ethnicity				
Caucasian	480 (95.6)	904 (97.0)	483 (96.2)	911 (97.7)
Education level				
Less than university level	329 (65.5)	671 (72.0)	322 (64.1)	659 (70.7)
BMI				
Underweight (<18.5)	5 (1.0)	29 (3.1)	5 (1.0)	43 (4.6)
Normal (18.5–25)	190 (37.8)	434 (46.6)	202 (40.2)	473 (50.8)
Overweight (25–30)	192 (38.2)	255 (27.4)	211 (42.0)	261 (28.0)
Obese/Very obese (30+)	104 (20.7) [†]	190 (20.4) [†]	73 (14.5)	131 (14.0)
Comorbidities				
Chronic constipation	22 (4.4) [†]	66 (7.1) [†]	8 (1.6)	26 (2.8)
Asthma	57 (11.4) [†]	110 (11.8) [†]	32 (6.4)	74 (7.9)
Diabetes	46 (9.2)	82 (8.8) [†]	36 (7.2)	51 (5.5)
High blood pressure	165 (32.9) [†]	253 (27.1) [†]	123 (24.5)	202 (21.7)
Neurologic conditions [‡]	21 (4.2) [†]	37 (4.0) [†]	6 (1.2)	10 (1.1)
Depression	61 (12.2) [†]	160 (17.2) [†]	20 (4.0)	80 (8.6)

BMI=body mass index; OAB=overactive bladder.

*Married or living as married with partner.

[†] $P \leq 0.05$ male OAB cases vs male controls or female OAB cases vs female controls.

[‡]Includes stroke, Parkinsonism, and multiple sclerosis.

Table 2: Logistic Regression Modeling* – Comorbidities Associated With OAB Symptoms

Characteristic	POR	95% CI
BMI		
Underweight vs. Normal	0.9	0.6–1.2
Overweight vs. Normal	1.0	0.9–1.2
Obese/Very Obese vs. Normal	1.2	1.1–1.4
Chronic constipation	1.4	1.1–1.7
Neurologic conditions	1.6	1.2–2.0
Depression	1.4	1.2–1.6

CI=confidence interval; OAB=overactive bladder; POR=prevalence odds ratio.

*Model controls for age, gender, and country.

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HUMAN SUBJECTS: This study was approved by the Ethics committee at Goteborg University, DNR 305-05 and followed the Declaration of Helsinki Informed consent was obtained from the patients.