

## URINARY INCONTINENCE AND LOW BACK PAIN

### Hypothesis / aims of study

To describe the prevalence and severity and to identify the factors associated of urinary incontinence (UI) and low back pain (LBP) among a group of women attending in a gynaecological consultancy.

### Study design, materials and methods

Cross-sectional, multicenter study. The Spanish version of the International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF) and the Oswestry Low Back Pain Disability Index (ODI) were used to assess UI and LBP among a group of women attending in a gynaecological consultancy. With the self-administered questionnaire, some questions were added to gather more detailed information about health and sociodemographic characteristics. Multiple logistic regression models were developed to identify the variables associated with LBP and UI.

### Results

A total of 688 women answered the questionnaire. The mean age was 43 years (range 36-49), 192 (28%) nulliparous women. 38% suffer UI (18% slight, 16% moderate, 3.5% severe, 0.4% very severe) and 51.6% for LBP (42.9% minimal disability, 6.7% moderate disability, 1.6% severe disability, 0.4% crippled). The description of baseline characteristics of the study population is presented in Table 1. LBP disability and nulliparity were significantly associated with UI (table 2) and UI severity, asthma and BMI were significantly associated with LBP (table 3).

Table 1: Characteristics of women attending gynaecological consultancy

Data	n=688
BMI*	23.25(3.6)
Age <sup>β</sup> (y)	43(36-49)
Smoking (%)	137(19.9)
Number of drugs <sup>α</sup>	0(0-1)
Nulliparity (%)	192(27.9)
Previous Abdominal surgery (%)	266(38.9)
Previous lumbar surgery (%)	16(2.3)
COPD (%)	12(1.8)
Allergy (%)	164(24.1)
Asthma (%)	48(7)
Constipation (%)	205(30.2)
Irritable bowel syndrome (%)	40(5.9)
HBP (%)	29(4.3)
Diabetes (%)	6(0.9)
Arthrosis (%)	88(12.9)
Osteoporosis (%)	48(7.1)

\*Mean (standard deviation); <sup>β</sup> mean (25ch-75ch range); <sup>α</sup> median (25ch-75ch range).

BMI: Body mass index; COPD: Chronic obstructive pulmonary disease; HBP: high blood pressure;

Table 2: Major factors related to UI

	P	Adjusted Odds ratio	95% Confidence Interval	
Nulliparity	0,000	0,293	0,182	0,474
Age	0,116	1,019	0,995	1,042
Osteoporosis	0,056	2,080	0,980	4,414
BMI*	0,105	1,043	0,991	1,098
ODI*	0,000	1,601	1,237	2,073
HBP*	0,849	1,095	0,432	2,772
Arthrosis	0,376	0,761	0,415	1,395

Independent variables entered in the model: nulliparity, Age, Osteoporosis, BMI, ODI, HBP, Arthrosis.

\* BMI: Body mass index; ODI: oswestry disability index; HBP: High blood pressure

Table 3. Major factors related to LBP

	p	Adjusted Odds ratio	95% Confidence Interval	
Nulliparity	0,848	0,964	0,663	1,402
Allergy*	0,125	1,371	0,916	2,053
Number of drugs	0,186	1,119	0,947	1,321
Previous abdominal surgery	0,211	1,244	0,884	1,750
Previous lumbar surgery	0,081	6,495	0,796	52,974
EPOC*	0,291	3,212	0,368	28,026
Asthma	0,017	2,527	1,178	5,419
Arthrosis	0,209	1,418	0,822	2,445
UI severity	0,000	1,458	1,194	1,780
BMI	0,053	1,049	0,999	1,101
HBP	0,501	1,396	0,528	3,689

Independent variables entered in the model: Nulliparity, Allergy, Number of drugs, previous abdominal surgery, previous lumbar surgery, COPD; HBP, Asthma, Arthrosis, UI severity, BMI.

COPD: Chronic obstructive pulmonary disease; HBP: high blood pressure; BMI: body mass index.

#### Interpretation of results

These results are in agreement with previous studies (1, 2), which reported that women with UI were more vulnerable to LBP than the normal population. Such vulnerability may be strongly related to the muscular function of the pelvic girdle. Women may have limited musculoskeletal support of the pelvic organs, a factor strongly associated with pregnancy and the labor process. Recently, incontinence and respiratory disorders have been associated with the development of back pain as a result of changes in control of the trunk muscles (1). Among many essential functions, the trunk muscles, including muscles of respiration (diaphragm and transversus abdominis) and continence (pelvic floor muscles), provide mechanical support to the spine and pelvis that could explain the strong relation between both diseases.

#### Concluding message

From our results, the strong relationship between low back discomfort/disability and UI may be ascribed to PFM dysfunction in women with UI. Because this could be an important co-existing problem we suggest a systematic interview to detect and address an appropriate treatment if needed.

#### References

1. Smith MD, Russell A, Hodges PW. Do incontinence, breathing difficulties, and gastrointestinal symptoms increase the risk of future back pain? *J Pain* 2009;10(8):876-86.
2. Kim JS, Kim SY, Oh DW, Choi JD. Correlation between the Severity of Female Urinary Incontinence and Concomitant Morbidities: A Multi-Center Cross-Sectional Clinical Study. *Int Neurourol J* 2010;14:220-226

#### Disclosures

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