

## INFLUENCE OF URINARY INCONTINENCE ON POSTPARTUM DEPRESSION AND ANXIETY

### Hypothesis / aims of study

Urinary incontinence (UI) is a common problem after delivery, reported by 15% to 30% of women during the first year postpartum (1). There are also some psychiatric disorders such as depression and anxiety that can emerge after delivery and could affect infant cognitive development (2). An association has been established between these disorders and UI in the general population aged equal or more than 40 years (3). However the impact of UI in postpartum depression and anxiety is nearly unknown. The aim of this study was to investigate the association of UI with depression and anxiety six weeks after delivery. We hypothesized that women with UI may be more likely to suffer postpartum depression and/or anxiety.

### Study design, materials and methods

A prospective cohort study was undertaken to evaluate the influence of UI on depression and anxiety six weeks after delivery. The study group was selected from women, who had a vaginal delivery at our Public Health Hospital from October 2012 to January 2013. We excluded multiple pregnancies, gestational age of less than 37 weeks, women who had any complication during pregnancy, delivery or in the first week postpartum including anxiety or depression, and if the newborn had any complication.

In the follow up visit six weeks postpartum, we used the 2002 ICS definitions to interview the women about urinary symptoms. Women with UI were asked to complete the validated Spanish version of the International Consultation on Incontinence short form questionnaire (ICIQ-UI-SF). During this visit, patients were also asked to complete the Edinburgh Postnatal Depression Scale (EDPS) and the state-trait anxiety inventory (STAI) to evaluate depression and anxiety respectively. Both questionnaires are self-administered and have been validated in Spanish. EDPS is made up of ten questions scored from 0 to 3. The STAI is comprised of separate self-reported scales for measuring two distinct anxiety concepts: state anxiety (A-State) and trait anxiety (A-Trait). Both consist of 20 statements scoring from 0 to 3, but the instructions require subjects to indicate how they feel at a particular moment in time in the A-State and how they generally feel in the A-Trait. We used A-State scale to evaluate postpartum anxiety. We also investigated other variables that could modify depression and anxiety in the postpartum period such as: age, parity, instrumental delivery, breastfeeding, low economic status and history of depression or anxiety.

Statistical analyses were used for mean comparison (Student's test, Mann-Whitney U test and Kruskal-Wallis test). Linear regression models were used for multivariable analysis. Statistical significance was set at  $p=0.05$ .

### Results

We recruited 247 women who met inclusion and exclusion criteria. From the total, 228 (92.3%) attended the six weeks follow up visit and formed the study group. Mean age was 32.3 years (range:19-45) and mean BMI was 25.5 (range: 17.0-42.2). In this group 97 (42.5%) were primiparous and 131 (57.5%) were multiparous. Twelve women reported a history of anxiety and 7 referred a history of depression. Six weeks after delivery 44 (19.3%) women had UI distributed as follows: 28 (12.2%) had stress UI; 13 (5.7%) had urge UI and 3 (1.3%) had mixed symptoms. The mean ICIQ-IU-SF score was 8.7 (range: 3-16).

The analysis performed to associate postpartum depression and anxiety with different variables is shown in table 1. We observed that women with urinary incontinence and with history of anxiety had significantly higher values in the A-State scale. We built a multivariable model including these variables. This analysis indicated that there was an independent association between UI and anxiety six weeks postpartum (mean difference: 2.5;  $p=0.05$ ). We did not find any statistical association between depression and UI.

**Table 1** Results of the univariate analysis performed to associate postpartum depression and anxiety with different variables

Variables	n	EPPS mean $\pm$ SD	P value	A-State mean $\pm$ SD	P value
Age (years)					
$\leq 24$	17	5.8 $\pm$ 4.6	0.41	11.4 $\pm$ 9.8	0.28
25-34	130	4.8 $\pm$ 4.2		9.7 $\pm$ 8.3	
$\geq 35$	81	4.1 $\pm$ 3.1		10.7 $\pm$ 7.0	
Parity					
Primipara	97	5.9 $\pm$ 4.1	0.42	10.5 $\pm$ 8.9	0.89
Multipara	131	4.4 $\pm$ 3.7		10.0 $\pm$ 7.2	
Mode of delivery					
Spontaneous	177	4.6 $\pm$ 3.9	0.68	10.3 $\pm$ 8.1	0.80
Instrumental	51	4.5 $\pm$ 4.0		9.8 $\pm$ 7.5	
Low economic status					
No	197	4.5 $\pm$ 3.7	0.60	10.2 $\pm$ 7.6	0.38
Yes	31	5.4 $\pm$ 5.0		10.3 $\pm$ 10.2	
History of depression					
No	221	4.6 $\pm$ 3.9	0.60	10.3 $\pm$ 8.0	0.93
Yes	7	4.8 $\pm$ 3.0		9.1 $\pm$ 5.9	
History of anxiety					

Urinary Incontinence	No	216	4.4 ± 3.8	0.005	9.9 ± 7.9	0.002
	Yes	12	7.8 ± 4.5		16.3 ± 6.3	
Breastfeeding	No	184	4.4 ± 3.7	0.15	9.7 ± 7.7	0.036
	Yes	44	5.6 ± 4.5		12.5 ± 8.5	
	No	52	4.6 ± 4.0	0.93	9.4 ± 7.2	0.49
	Yes	176	4.6 ± 3.9		10.4 ± 8.2	

SD: Standard deviation

#### Interpretation of results

We have identified an independent association between urinary incontinence and anxiety in the postpartum period. We established this association taking into account other variables that could also be implicated in this psychiatric disorder. Although incontinent women also had higher scores in the depression scale, the comparison with continent women did not reach statistical significance.

#### Concluding message.

Women with postpartum urinary incontinence have higher scores in the A-State scale, indicating increased anxiety in this particular moment. This relationship becomes more important when we consider that anxiety can affect infant cognitive development.

#### References

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#### Disclosures

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