103 - LOWER URINARY TRACT SYMPTOMS ONE YEAR AFTER DELIVERY: A COMPARISON OF VAGINAL DELIVERY VERSUS CAESAREAN SECTION

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AIMS OF STUDY

- ✓ Pregnancy and childbirth are risk factors for the development of lower urinary tract symptoms (LUTS).
- ✓ LUTS after delivery have attracted substantial attention in recent years because of their high prevalence and detrimental effects on health-related quality of life.

Investigate the prevalence of LUTS one year after the first delivery, determine the potential risk factors and compare the prevalence of LUTS for different modes of delivery,

STUDY DESIGN, MATERIALS AND METHODS

This cross- sectional study was conducted in a Tertiary Hospital and was approved by the Research Ethics Committee if the Institution.

√ The eligibility criteria were primiparous women at ≥36 weeks gestation with no history of UI.

X Exclusion criteria were previous urogynecological surgery, urogynecological malformations, diabetes mellitus, and neurological disorders

International Consultation on Incontinence Questionnaire Female Lower Urinary tract Symptoms Module (**ICIQ-FLUTS**) was administered consecutively 1 year after delivery.

No intervention was implemented.

The primary outcome was women's self-reported occurrence of LUTS 12 months after giving birth. The impact of LUTS experienced by women on their daily activities and psychological well-being were secondary outcomes.

Demographic data of the participants included maternal age, type of job(physical or mental), smoking, health-related problems during pregnancy, delivery mode, neonatal weight, length and Head circumference.

All statistical analyses were performed using SPSS version 27. Data was analyzed by descriptive statistics, Chi-squared tests, Fisher's exact test

RESULTS

- 333 pregnant women
- Response rate of 64.26%
- 119 were not eligible (11, 5% pregnant)
- 8.4% of smokers

- Mean maternal age was 28, 74 ± 5.46 years
- 35,4% Cesarean delivery (CD) 64.6% vaginal delivery (VD), :19.2% vacuum assisted and 1.9% forceps assisted.

Cesarean delivery (CD) was associated with the presence of women health problems during pregnancy (50% vs 32%, p=0,004) such as hypertension, gestational diabetes and others

Storage symptoms were more common than voiding symptoms, nocturia (45.1%), urgency (20.7%)

- 9.4% urge urinary incontinence
- 23.5% stress urinary incontinence (11.7% mild)

Regarding perineal state after vaginal delivery, 27 women had ≥2nd degree tear, 13 of them presenting urinary incontinence. (*p*= 0.032)

Perineal Injury Grade

none	164	76,6
I	23	10,7
II	22	10,3
IIIA	3	1,4
IIIB	2	,9
Total	214	100,0

The prevalence of LUTS according to the delivery mode a year after delivery is shown in Figure 1 and 2.

INTERPRETATION OF RESULTS

The incidence of **nocturia** and **urgency,** was significantly lower in the VD group than the CD (*p* =0.014 and *p*= 0.02 respectively). These results suggest that the mechanical strain during labor may add to the risk of other women health problems during pregnancy and surgical intervention

There were no significant differences between the groups in terms of urinary frequency

Urgency was referred to as the most severe and impacting symptom in women with cesarean section with a frequency of 30.3% vs. 15.2% in vaginal deliveries. Despite this, the frequency of urge urinary incontinence is higher in vaginal delivery but without a statistically significant difference.

SUI, nocturia, and urgency were most frequently considered moderate or severe bother nevertheless no association was found between the severity of LUTS and the degree of botherness.

Incontinence was more frequent in the three subtypes (urgency, stress and mixed) in the VD group with significant differences only when considering stress incontinence (*p*=0.011) with severe incontinence in only 4.3% of cases.

In the literature, recent studies have shown the protective effect of CD on the pelvic floor. VD is an independent risk factor for damage to the pelvic floor muscles after the fetus passing through the soft birth canal can directly damage the pelvic floor muscles.

Our results are in line with the findings from a number of previous studies; that show that low degree of perineal injury, birth weight, length and head circumference seem to be of minor importance for the incidence of UI postpartum

Asking women to recall symptoms is subject to bias, and may have led to over- or underestimation. Information on pelvic floor exercises would have been interesting, to investigate any associations with LUTS.

Prevalence of LUTS according to the mode of delivery

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total	*p*- value[a]
Nocturia	none	60	36	19	2	117	
		65,2%	47,4%	46,3%	50,0%	54,9%	
	one	22	13	15	2	52	
		23,9%	17,1%	36,6%	50,0%	24,4%	
	two	5	22	6	0	33	
		5,4%	28,9%	14,6%	0,0%	15,5%	
	three	4	4	1	0	9	
		4,3%	5,3%	2,4%	0,0%	4,2%	
	four or more	1	1	0	0	2	
		1,1%	1,3%	0,0%	0,0%	0,9%	0.014

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total	*p*- value[a]
Urgency	never	78	53	34	4	169	
		84,8%	69,7%	82,9%	100,0%	79,3%	
	occasionally	4	5	4	0	13	
		4,3%	6,6%	9,8%	0,0%	6,1%	
	sometimes	4	17	1	0	22	
		4,3%	22,4%	2,4%	0,0%	10,3%	
	most of the time	4	1	1	0	6	
		4,3%	1,3%	2,4%	0,0%	2,8%	
	all of the time	2	0	0	0	2	
		2,2%	0,0%	0,0%	0,0%	0,9%	0.020

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total
Pain	never	91	73	39	3	206
		98,9%	96,1%	95,1%	75,0%	96,7%
	occasionally	1	2	1	1	5
		1,1%	2,6%	2,4%	25,0%	2,3%
	sometimes	0	1	1	0	2
		0,0%	1,3%	2,4%	0,0%	0,9%

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total
Strain	never	91	75	40	4	210
		98,9%	98,7%	97,6%	100,0%	98,6%
	sometimes	1	1	1	0	3
		1,1%	1,3%	2,4%	0,0%	1,4%

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total
Hesitancy	never	89	74	39	4	206
		96,7%	97,4%	95,1%	100,0%	96,7%
	occasionally	1	2	0	0	3
		1,1%	2,6%	0,0%	0,0%	1,4%
	sometimes	2	0	1	0	3
		2,2%	0,0%	2,4%	0,0%	1,4%
	most of the time	0	0	1	0	1
		0,0%	0,0%	2,4%	0,0%	0,5%

		VD(n=93)	CS(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total	*p*- value[a]
Urgency Incontinence	never	83	69	38	3	193	
		90,2%	90,8%	92,7%	75,0%	90,6%	
	occasionally	3	3	1	1	8	
		3,3%	3,9%	2,4%	25,0%	3,8%	
	sometimes	4	4	1	0	9	
		4,3%	5,3%	2,4%	0,0%	4,2%	
	most of the time	2	0	1	0	3	
		2,2%	0,0%	2,4%	0,0%	1,4%	0.566

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total	*p*- value[a]
Stress Incontinence	never	68	68	25	2	163	
		73,9%	89,5%	61,0%	50,0%	76,5%	
	occasionally	14	2	9	0	25	
		15,2%	2,6%	22,0%	0,0%	11,7%	
	sometimes	6	4	4	1	15	
		6,5%	5,3%	9,8%	25,0%	7,0%	
	most of the time	4	2	3	1	10	
		4,3%	2,6%	7,3%	25,0%	4,7%	0.011

		VD(n=93)	CD(n=76)	vacuum assisted(n=41)	forceps assisted(n=4)	Total	*p*- value[a]
Incontinence	never	67	62	26	1	156	
		72,8%	81,6%	63,4%	25,0%	73,2%	
	once or less per week	16	8	8	1	33	
		17,4%	10,5%	19,5%	25,0%	15,5%	
	two to three times per week	7	4	5	2	18	
		7,6%	5,3%	12,2%	50,0%	8,5%	
	once per day	2	2	1	0	5	
		2,2%	2,6%	2,4%	0,0%	2,3%	
	several times per day	0	0	1	0	1	
		0,0%	0,0%	2,4%	0,0%	0,5%	0.094

Chi-square test was performed to analyze statistical significant differences between the various modes of delivery and the prevalence of LUTS (p-value<0.05 was considered statistically significant)

VD vaginal delivery, CD cesarean delivery a VD compared to CD

CONCLUSIONS

- ✓ Most commonly reported **nocturia** followed by **urgency,** which was significantly lower in the VD group than the CD.
- ✓ Prevalence of all three subtypes of UI was higher after VD compared with CD, with **significant higher risk of stress incontinence in VD**
- ✓ As **LUTS** can have a negative impact on women's psychological wellbeing, it should be acknowledged that this is **not an inevitable** and acceptable **consequence** of childbirth

References

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