

PREVALENCE OF ANAL AND URINARY INCONTINENCE IN PRIMIPARAS AND IMPACT ON HEALTH RELATED QUALITY OF LIFE

Hypothesis / aims of study

The aims of this study were to explore the prevalence of symptomatic anal (AI) and urinary incontinence (UI) in late pregnancy and at six months post partum and to investigate how incontinence affects health related quality of life.

Study design, materials and methods

Between May 2009 and December 2010, all primiparas over the age of 18 at two large hospitals were invited to take part in the survey. Three questionnaires regarding symptoms of anal and urinary incontinence and Health Related Quality of Life (HRQoL) was used. AI was classified as incontinence of formed or loose stool of any frequency, daily leakage of flatus or a total St. Mark's score of more than 3 points. UI was graded by use of ICIQ-UI SF (1). HRQoL in women with anal incontinence was measured by the disease specific questionnaire, Fecal Incontinence Quality of Life (FIQL) and a reduction of more than 1 point from the maximum score of each domain was considered to be of clinical relevance.

Results

A total of 1571 and 1069 (67.5%) primiparous were included in the first and second part of the study, respectively. The mean age was 28.3 years (range 18-46).

Table 1. Anal incontinence and urgency.		Never		Rarely		Monthly		Weekly		Daily			
St. Marks score last 4 weeks of pregnancy (n= 1571)		%	n	%	n	%	n	%	n	%	n	%	n
Formed stool		91	1428	2,9	46	3,6	56	1,3	21	1,1	18		
Loose stool		86,7	1361	7,3	114	3,8	60	1,2	19	1	15		
Flatus		53,2	834	17,9	281	17,1	268	6,6	103	5,3	83		
Not able to defer defecation for 15 minutes												20,5	321
St. Marks score at 6 months post partum (n= 1069)		%	n	%	n	%	n	%	n	%	n	%	n
Formed stool		94,7	1013	2,5	27	1,6	17	0,7	8	0,5	5		
Loose stool		92,3	988	4,6	49	2,3	25	0,5	5	0,3	3		
Flatus		60,8	651	16,9	181	13,9	149	4,5	48	3,8	41		
Not able to defer defecation for 15 minutes												15,5	166

There was a statistically significant reduction in the mean total St. Mark's score from late pregnancy (mean 2.46, SD 3.1, range 0-18) to six months post partum (1.73, SD 2.63, range 0-16), $p < .000$ and in all categories of incontinence (Table 1). Sixty-three percent and 75% scored less than 3 points on St. Marks score in the last four weeks of pregnancy and six months post partum, respectively, and 95% of respondents reported less than 8 points pre labour and 6 points six months post partum. Urgency with need of defecation within 15 and 5 minutes were significantly reduced by 5% from the pre labour score to the six months score (two sided McNemar test, $p < .72$). Urinary incontinence during pregnancy (mean score 2.13, SD 3.0) were slightly reduced post partum (mean score 1.79, SD 3.0) (Table 2).

Table 2: ICIQ-UI SF score With QoL score	ICI-Q pre labour		ICI-Q post partum		Without QoL score	ICI-Q pre labour		ICI-Q post partum	
	%	n	%	n		%	n	%	N
Continent (0p)	57.3	901	66.1	706	Continent (0 p)	57.9	909	66.9	714
Slight (1-5p)	28.3	444	22.7	242	Slight (1-3p)	23.5	370	21.4	229
Moderate (6-12)	13.6	213	10.4	111	Moderate (4-5)	12.7	199	9	96
Severe (13-18)	0.8	12	0.8	9	Severe (6-8)	5.7	89	2.7	29
Very severe (19-21)	0	0	0	0	Very severe (10-11)	0.2	3	0	0
	100	1570	100	1068		100	1570	100	1068

Women having monthly leakage of formed stool in the last four weeks of pregnancy were more likely to report a reduction of HRQoL domains, than those experiencing rare or weekly / daily leakage of formed stool, except in the Lifestyle Domain ($p < .001$, Table 3). Women with any anal incontinence symptoms more frequent than monthly post partum were over 20 times more likely to report a reduction in the Depression and Self Perception domain than those with no incontinence ($p < .000$). Women with leakage of loose stool monthly or more often were 26 times more likely to report reductions in the Coping and Behaviour domain ($p < .000$).

Interpretation of results

Anal incontinence was rare in this sample of 1571 primiparas, with only 2.4% and 2.2% reporting leakage of formed or loose stool weekly or more, respectively, in the last four weeks of pregnancy. This prevalence was reduced to 1.2% and 0.8% six months post partum. The prevalence of women reporting daily incontinence of flatus was reduced from 5.3% pre labour to 3.8% post partum. Women reporting symptoms of anal incontinence was between 4 and 20 times more likely to experience a reduced

Health Related Quality of Life as measured by the FIQL scale. The rate of urinary incontinence was slightly reduced post partum.

Table 3. Anal incontinence and Health Related Quality of Life. Crude Odds Ratio		Lifestyle < 3.0 ¹		Coping and Behaviour < 3.0 ¹		Depression and Self Perception < 3.43 ¹		Embarrassment < 3.0 ¹	
		OR	p	OR	p	OR	p	OR	p
St. Mark's score pre labour (n=1571)		(n= 18)		(n= 33)		(n= 45)		(n= 26)	
Formed stool	Never (n= 1429)		.00		.000		.00		.00
	Rarely (n= 47)	0	.99	4.8	.01	4.3	.001	5.7	.01
	Monthly (n= 56)	15.5	.00	10.1	.00	6.7	.00	6.4	.00
	Weekly / Daily (n= 39)	18.0	.00	5.9	.00	5.3	.00	4.5	.05
Loose stool	Never (n= 1362)		.00		.00		.00		.00
	Rarely (n= 114)	7.0	.00	7.4	.00	4.8	.00	2.4	.17
	Monthly (n= 60)	18.0	.00	14.9	.00	7.4	.00	4.7	.02
	Weekly / Daily (n= 35)	11.7	.00	28.1	.00	9.3	.00	15.0	.00
Flatus	Never (n= 834)		.00		.00		.00		.00
	Rarely (n= 282)	6.0	.04	2.1	.20	2.0	.13	4.0	.07
	Monthly (n= 269)	11.1	.00	4.6	.00	2.9	.01	7.4	.00
	Weekly (n= 103)	4.1	.25	8.6	.00	5.0	.00	14.1	.00
Daily (n= 83)	21.1	.00	6.0	.00	6.3	.00	25.5	.00	
Urgency (15 mins)	Yes (n=321)	6.3	.00	6.3	.000	3.0	.00	2.9	.00
St. Mark's score six months post partum (n=1069)		(n= 6) ²		(n= 16)		(n= 12)		(n= 4) ²	
Formed stool	Never (n= 1012)				.00		.00		
	Rarely (n= 27)			7.9	.01	5.9	.10		
	Monthly (n= 17)			12.1	.00	21.9	.00		
	Weekly / Daily (n= 13)			7.6	.06	25.9	.00		
Loose stool	Never (n= 987)				.00		.00		
	Rarely (n= 49)			6.0	.03	0	.99		
	Monthly (n= 25)			26.7	.00	39.0	.00		
	Weekly / Daily (n=8)			84.0	.00	116.9	.00		
Flatus	Never (n= 650)				.02		.00		
	Rarely (n= 181)				.99	3.7	.20		
	Monthly (n= 149)				.99	4.5	.14		
	Weekly (n= 48)				.99	23.1	.00		
Daily (n= 41)				.99	.0	.00			
Urgency (15 mins)	Yes (n=166)			17.5	.0	4.1	.02		

Footnote:1). The domains Lifestyle, Coping and Behaviour and Embarrassment all have 4.0 as the maximum score. The Depression and Self Perception domain has a maximum score of 4.43 (2). 2) No analysis possible as n< 10.

Concluding message

One out of two women with anal + / - urinary incontinence during pregnancy improves post partum. Any residual anal incontinence reduces their health related quality of life.

References

1. Klovning A., Avery K., Sandvik H., Hunnskaar S. Comparison of two questionnaires for assessing the severity of urinary incontinence: The ICIQ-UI SF versus the incontinence severity index. Neurology and urodynamics. 2009;28:411-415
2. Dehli T., Martinussen, M, Mevik K., Stordahl A., Sahlin Y., Lindsetmo RO. Translation and validation of the Norwegian version of the Fecal Incontinence Quality-of-Life scale. Scandinavian Journal of Surgery 2011.100:190-195.

Disclosures

Funding: Norwegian ExtraFoundation for Health and Rehabilitation through EXTRA funds and The Norwegian Women's Public Health Association. **Clinical Trial:** Yes **Public Registry:** Yes **Registration Number:** ClinicalTrials.gov. NCT00970320 **RCT:** No **Subjects:** HUMAN **Ethics Committee:** Norwegian Regional Committees for Medical and Health Research Ethics (REC) **Helsinki:** Yes **Informed Consent:** Yes