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A HIGHLY SUCCESSFUL INTERVENTIONAL PROGRAM REDUCING THE INCIDENCE OF OASIS FROM 4.7 TO 2.0 PERCENT IN A LARGE COHORT.

Hypothesis / aims of study

Obstetric anal sphincter injuries (OASIS) are well known and serious complications of vaginal delivery. The overall occurrence rate varies greatly in different reports (0.6-10.2%). Complications after such an injury are very distressing. Despite sufficient primary repair, studies show that 30-50% of all women suffering such injury experience anal incontinence. To prevent obstetric anal sphincter injuries (OASIS) it is important to accumulate knowledge with regard to risk factors, in particular the modifiable obstetric interventions. The incidence of OASIS in Norway increased from below 1% in the 1960s to 4.3% in 2004. A national strategy to reduce the number of OASIS was then initiated by the Norwegian Board of Health. As a part of this strategy an interventional program was conducted, first at one pilot hospital, and subsequently at four other hospitals. The main aims of the intervention program were theoretical and practical training, aimed at reintroducing the physicians and midwives to a traditional method of assisting delivery of the neonate during the final part of the second stage of delivery, providing adequate perineal support, and instruction on the use of episiotomy only upon indication.

This study was aimed to assess whether an interventional program causes a decrease in the frequency of anal sphincter tears.

Study design, materials and methods

This was an intervention study with before and after comparison investigating 40, 152 vaginal between 2003 and 2009. The outcome variable was OASIS before and after the intervention.

Results

The risk of sustaining OASIS was significantly reduced with 59% (OR 0.41; 95% CI 0.36-0.46) after the intervention period (Table 1). The greatest reduction was observed in women with low-risk births (Table 2)

Interpretation of results

The intervention program was highly successful, reducing the incidence of OASIS from 4.7% to 2% significantly protecting women with low-risk birth from sustaining such injury.

Concluding message

A focused intervention program with focus on perianal protection should be implemented in any birth units with an OASIS rate above 2%.

Table 1 OASIS in 21 123 vaginal deliveries before and 19 031 vaginal deliveries after an intervention programme

Rupture grade	Before intervention:		After intervention:		Crude odds ratio (95% CI)	Adjusted odds ratio (95% CI) *
	n	%	n	%		
3a	377	1.8	130	0.7	0.38 (0.31-0.46)	0.37 (0.30-0.45)
3b	289	1.4	121	0.6	0.46 (0.37-0.57)	0.47 (0.38-0.57)
3c	189	0.9	86	0.5	0.50 (0.39-0.65)	0.50 (0.38-0.64)
4	117	0.6	38	0.2	0.36 (0.25-0.52)	0.37 (0.26-0.54)
Total 3a-4	974	4.6	375	2.0	0.42 (0.37-0.47)	0.40 (0.36-0.46)

Table 2 Table 5. Odds Ratio for OASIS for risk groups 0-4 before compared with after the intervention

Risk category	Before intervention n(N=21 123) %		Crude odds ratio (95% CI)	Adjusted odds ratio (95% CI) [†]	After Intervention n(N=19 031) %		Crude odds ratio (95% CI)	Adjusted odds ratio (95% CI) [†]	Between study periods odds ratio (95%CI) [†]
	n	%			n	%			
Risk-group-0‡	114 (7997)	1.4	Reference	Reference	36 (7096)	0.5	Reference	Reference	0.35 (0.24-0.51)
Risk-group-1*	391 (9601)	4.1	2.93 (2.38-3.62)	3.13 (2.53)	155 (8744)	1.8	3.54 (2.46-5.09)	3.72 (2.58-5.37)	0.43 (0.35-0.52)
Risk-group-2**	327 (2877)	11.4	8.87 (7.13-11.03)	9.64 (7.75-12.03)	129 (2710)	4.8	9.80 (6.76-14.22)	10.35 (7.11-15.07)	0.39 (0.31-0.48)
Risk-group-3***	136 (610)	23.3	19.84 (15.21 - 25.87)	21.45 (16.39- 28.08)	49 (453)	10.8	23.77 (15.29- 37.00)	25.02 (16.04- 39.33)	0.42 (0.30-0.60)
Risk-group-4 ****	6 (38)	15.8	12.96 (5.32- 32.62)	14.42 (8.89- 35.27)	6 (28)	21.4	53.49 (20.60- 156.16)	59.41 (22.60- 156.16)	1.59 (0.44 - 5.77)

[†] Logistic regression adjusted for maternal age.

‡ Birthweight ≤4000 g, normal presentation, spontaneous vaginal delivery, second and third vaginal delivery.

* One of following risk factors present: birthweight ≥4000 g, abnormal presentation, instrumental delivery, first vaginal delivery.

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Disclosures

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