

## LETTER TO THE EDITOR

# The impact of the nine-item list intervention on the rate of obstetric anal sphincter injury in women with spontaneous and operative vaginal births

Sir,

We would like to thank Dr Rasmussen for his interest in our article and for raising some important points regarding the rate of obstetric anal sphincter injury (OASI).<sup>1</sup>

The overall purpose of the nine-item list intervention of organizational and cultural changes was to increase the number of spontaneous vaginal births without increasing adverse neonatal outcomes.<sup>2</sup> In the present paper we evaluated long-term effects on outcomes in Robson group 1, with the emphasis on neonatal variables.<sup>3</sup>

We agree that vaginal birth is the correct denominator when comparing OASI rates, although all births are widely used. It is crucial when presenting clinical data that all absolute numbers are available, enabling recalculation and construction of new tables suitable for benchmarking.

In this time-series study, causality has not been proven between the nine-item list intervention and any outcome reported, including

OASI. We observed that the rate of OASI decreased early after introduction of the nine-item list. One could speculate about reasonable explanations, one of which is a decreased number of operative vaginal births. Another possibility is that the impact of teamwork, team skills training, risk classification of women, and a midwife with corresponding competence might have influenced the rate of OASI.

As suggested by Dr Rasmussen, we hereby present the rate of OASI overall and in spontaneous vaginal births and operative vaginal births according to study period (Table 1). The overall rate of OASI (grade III and IV) in women with vaginal births dropped significantly after introduction of the nine-item list and remained fairly constant over time. The same pattern was found in the spontaneous vaginal births group. The rate of OASI in the operative vaginal births group did not differ between the time periods. However, absolute numbers indicate the need for a targeted intervention of pelvic floor protection, accurate diagnostic methods, and professional repair.<sup>4</sup>


**TABLE 1** The rate of OASI in spontaneous and operative vaginal births according to study period

| OASI                         | Mode of vaginal delivery | 2004-2006<br>Before the nine-item list | 2007-2010<br>During introduction of the nine-item list | 2011-2014<br>Early post introduction of the nine-item list | 2015-2018<br>Late post introduction of the nine-item list |                                     |
|------------------------------|--------------------------|--|--|--|---|-------------------------------------|
| OASI grade III and IV, n (%) | SVD + OVD                | 218 (9.6)                              | 210 (6.2)  | 222 (6.5)  | 159 (5.3)   | <i>P</i> < .05 Before vs all others |
|                              | SVD                      | 132 (7.5)                              | 138 (4.8)  | 158 (5.3)  | 122 (4.6)   | <i>P</i> < .05 Before vs all others |
|                              | OVD                      | 86 (17.3)                              | 72 (15.4)  | 64 (14.7)  | 37 (11.2)   | NS                                  |
| OASI grade III, n (%)        | SVD + OVD                | 196 (8.7)                              | 181 (5.4)  | 203 (5.9)  | 145 (4.9)   | <i>P</i> < .05 Before vs all others |
|                              | SVD                      | 119 (6.7)                              | 118 (4.1)  | 140 (4.7)  | 111 (4.2)   | <i>P</i> < .05 Before vs all others |
|                              | OVD                      | 77 (15.5)                              | 63 (13.4)  | 63 (14.5)  | 34 (10.3)   | NS                                  |
| OASI grade IV, n (%)         | SVD + OVD                | 22 (1.0)                               | 29 (0.9)   | 19 (0.6)   | 14 (0.5)  | NS                                  |
|                              | SVD                      | 13 (0.7)                               | 20 (0.7)   | 18 (0.6)   | 11 (0.4)  | NS                                  |
|                              | OVD                      | 9 (1.8)                                | 9 (1.9)  | 1 (0.2)  | 3 (0.9)   | NS                                  |

Note: NS, non-significant; OASI, obstetric anal sphincter injury; OVD, operative vaginal delivery; SVD, spontaneous vaginal delivery.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2020 The Authors. *Acta Obstetrica et Gynecologica Scandinavica* published by John Wiley & Sons Ltd on behalf of Nordic Federation of Societies of Obstetrics and Gynecology (NFOG)

Eric Hildebrand  
Marie Nelson  
Marie Blomberg 

*Department of Obstetrics and Gynecology and Department  
of Biomedical and Clinical Sciences, Linköping University,  
Linköping, Sweden*

**Correspondence**

Marie Blomberg  
Email: marie.blomberg@regionostergotland.se

**REFERENCES**

1. Rasmussen OB. What are the effects of the nine-item list on the incidence of obstetric anal sphincter injury? *Acta Obstet Gynecol Scand.* 2021;100:178.
2. Blomberg M. Avoiding the first cesarean section—results of structured organizational and cultural changes. *Acta Obstet Gynecol Scand.* 2016;95:580-586.
3. Hildebrand E, Nelson M, Blomberg M. Long-term effects of the nine-item list intervention on obstetric and neonatal outcomes in Robson group 1—a time series study. *Acta Obstet Gynecol Scand.* 2021;100:154-161.
4. Pihl S, Uustal E, Blomberg M. Anovaginal distance and obstetric anal sphincter injury: a prospective observational study. *Int Urogynecol J.* 2019;30:939-944.

**ORCID**

Marie Blomberg  <https://orcid.org/0000-0003-4679-550X>