

Longitudinal Changes in Overactive Bladder and Stress Incontinence Among Parous Women

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The purpose of this follow up investigation was to see how symptoms of bladder control problems change over time.

This study included information from 1,481 MOAD participants. We examined the annual survey answers to questions about several bladder symptoms. We compared women who had delivered at least one baby vaginally with women who delivered all their children by cesarean. There were three important findings from this analysis.

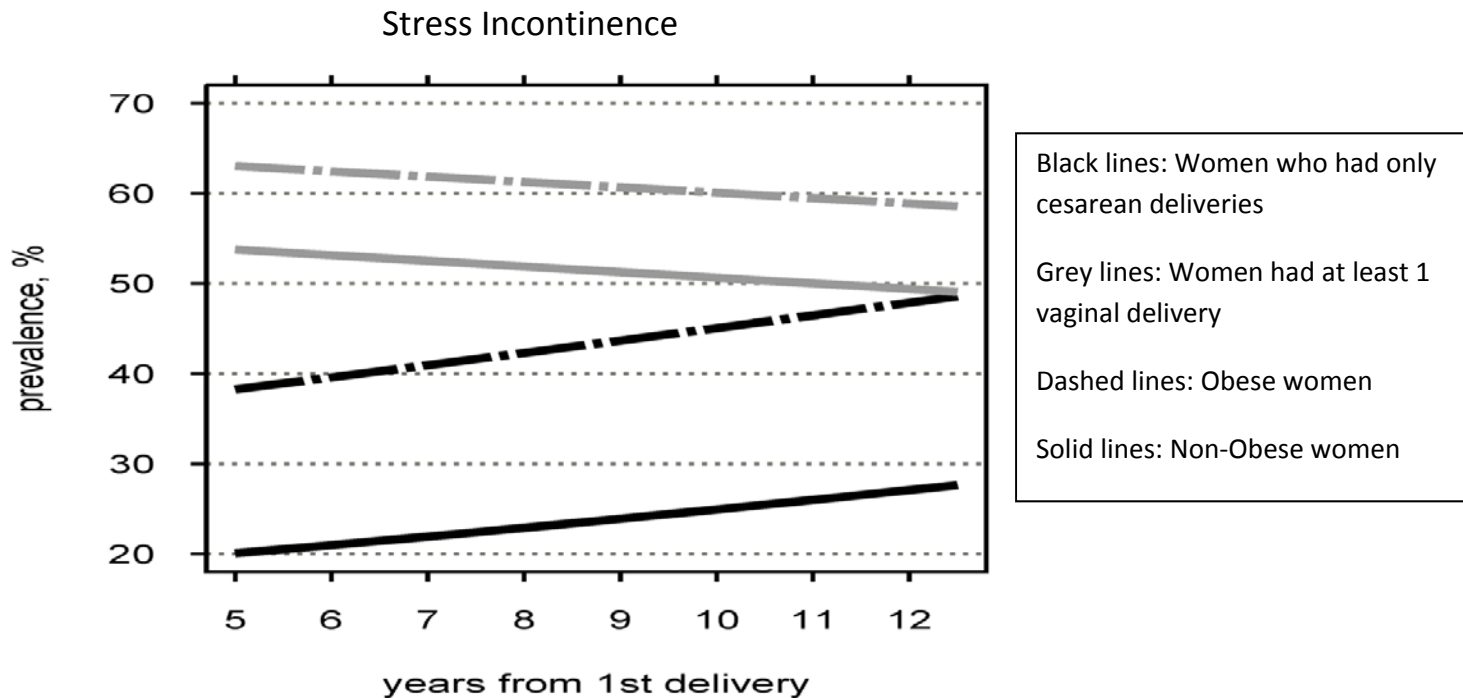
First, problems with bladder control were much more common after vaginal versus cesarean delivery 5 years after a first delivery. For example, after 5 years, the symptom of “stress urinary incontinence” (leaking urine with physical acts, such as cough, sneeze, or strain) was reported by 54% of women who had a vaginal delivery but only 20% of women who had a cesarean birth.

Another very important finding from this study is that obesity had a very strong impact on bladder symptoms. This was especially true among women who had delivered all their children by cesarean. MOAD members who are obese and have had only cesarean deliveries were twice as likely to report overactive bladder symptoms (needing to rush to the bathroom) as non-obese MOAD members in the cesarean group. This trend is also true for other bladder symptoms. There was a smaller impact of obesity in the vaginal birth group.

Our last finding focuses on how bladder symptoms change over time. 5 years after a first delivery, bladder control problems are more common among MOAD members who had vaginal deliveries. However, this study found that as time went on, the number of MOAD members reporting bladder symptoms increases annually in the cesarean group but not the vaginal delivery group. This was especially true for “stress incontinence”. Among women who had delivered at least one baby vaginally, there were very few new cases of stress incontinence each year. In contrast, among women who delivered by cesarean, 6% developed this symptom each year. As a result, the rates of symptoms in the two delivery groups get closer over time.

These three findings are summarized in the graph below. In the graph, the dark black lines represent the rate of stress incontinence for women in the cesarean group. The grey lines represent the rate of stress incontinence for women in the vaginal delivery group. In both cases, the dashed line represents obese women and the solid line represents non-obese women. This graph illustrates the three important findings from this research. First, at the beginning of the

follow up period, stress incontinence is much more common after vaginal versus cesarean delivery. Second, for each birth group, stress incontinence is much more common in the obese versus non-obese women (especially in the cesarean group). Finally, over time the women in the cesarean group are more likely to develop new symptoms.



The full text was published in *Neurology and Urodynamics*. You can read the whole text here:

http://www.hopkinsmedicine.org/johns_hopkins_bayview/docs/medical_services/obstetrics_gynecology/research/MOAD/ChangesOveractiveBladderStressIncontinence_FullText.pdf