

Mode of birth and long term sexual health: a follow-up study of mothers in the Danish National Birth Cohort

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Supplemental material

The supplementary material contains:

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Supplemental table 1: Sexual health in the past year (2012-2013) in mothers in their mid-forties (N=42 132).

	Women with a partner, N=37 417		Women without a partner, N=4 715	
Have your sexual needs been met?, n (%)*				
Completely	15 081	(41)	417	(9)
Almost completely	10 208	(29)	537	(12)
Partially	6 666	(18)	1 067	(23)
A little	2 248	(6)	918	(20)
Not at all	1 090	(3)	1 214	(27)
I have not had sexual needs	1 108	(3)	362	(8)
I do not know	290	(1)	52	(1)
How often have you been sexually active with another person?, n (%)*				
Every day	89	(0.2)	6	(0.1)
3–6 times a week	3 432	(9)	185	(4)
1–2 times a week	13 640	(37)	553	(12)
1–3 times a month	12 671	(35)	885	(20)
Less than once a month	4 960	(14)	1 177	(26)
Not at all	1 327	(4)	1 600	(35)
I do not know	348	(1)	122	(3)
Have you experienced lacking or reduced sexual desire?, n (%)*				
Yes, all the time	1 551	(4)	234	(5)
Yes, often	7 551	(21)	505	(11)
Yes, sometimes	13 566	(37)	755	(17)
Yes, but rarely	9 084	(25)	764	(17)
No, never	4 612	(13)	1 681	(37)
I do not know	376	(1)	608	(13)
If yes, was it a problem for you?				
Yes	7 945	(35)	287	(19)
No	12 220	(55)	1 077	(73)
I do not know	2 275	(10)	119	(8)
Was it a problem for your partner?				
Yes	12 752	(61)	-	
No	4 465	(21)	-	
I do not know	3 740	(18)	-	
Have you experienced the following during sexual activity with another person?, n (%)*				

Supplemental table 1: Sexual health in the past year (2012-2013) in mothers in their mid-forties (N=37 147) (continued).

	Women with a partner, N=37 417		Women without a partner, N=4 715	
I have not been sufficiently wet in the vagina				
Not at all	18 242	(51)	2 468	(57)
Rarely	8 272	(23)	572	(13)
Sometimes	5 938	(16)	337	(8)
Often	2 024	(6)	126	(3)
Every time	885	(2)	62	(1)
I do not know	787	(2)	770	(18)
I have not, or only with great difficulty, achieved orgasm				
Not at all	13 119	(36)	1 566	(36)
Rarely	10 580	(29)	854	(20)
Sometimes	6 853	(19)	632	(15)
Often	2 943	(8)	324	(8)
Every time	1 707	(5)	208	(5)
I do not know	817	(2)	730	(17)
I have had vaginismus that prevented intercourse				
Not at all	34 601	(95)	3 557	(82)
Rarely	638	(2)	58	(1)
Sometimes	269	(1)	17	(0.4)
Often	87	(0.2)	<5	(<0.1)
Every time	16	(<0.1)	0	(0)
I do not know	647	(2)	701	(16)
I have had pain in my genitals and/or abdomen with intercourse				
Not at all	26 965	(74)	3 019	(70)
Rarely	5 256	(14)	338	(8)
Sometimes	2 704	(7)	185	(4)
Often	584	(2)	48	(1)
Every time	211	(1)	23	(1)
I do not know	546	(2)	720	(17)
If yes, where was the pain located?†				
At the vaginal entrance	1 253	(36)	71	(28)
Deep in the abdomen	2 277	(65)	197	(77)
I do not know	228	(7)	14	(5)

*Percentage of those who have answered the question. The number of answers available for analysis for each outcome differed, as the response option 'I do not wish to answer this question' was provided for questions on sexual health and varied for all questions between 210 and 1361. In general, women without a partner more often used this answer category. The number of missing values were between 0 and 37 for all questions except 'was it a problem for your partner?' with 1503 missing values. The proportion of missing values did not differ between women with and without a partner.

†More than one answer could be given, wherefore the percentage adds up to more than 100.

Supplemental table 2: Sexual problems by degree of perineal tear, 3rd and 4th degree tears analysed separately.

	No tear/first degree	Second degree	Episiotomy	Third degree	Fourth degree
One or more sexual problem(s), n=27 992					
Cases (%)	5 882 (37)	1 560 (38)	2 278 (36)	617 (38)	99 (42)
Crude OR (95% CI)	Reference	1.04 (0.97–1.12)	0.95 (0.90–1.01)	1.01 (0.91–1.12)	1.19 (0.92–1.55)
Adjusted OR* (95% CI)	Reference	1.03 (0.96–1.11)	0.95 (0.90–1.01)	1.00 (0.90–1.11)	1.17 (0.90–1.52)
Reduced sexual desire, n=28 586					
Cases (%)	3 523 (22)	935 (22)	1 342 (21)	369 (22)	54 (22)
Crude OR (95% CI)	Reference	1.02 (0.94–1.11)	0.94 (0.87–1.00)	1.01 (0.89–1.14)	1.00 (0.74–1.36)
Adjusted OR* (95% CI)	Reference	1.01 (0.93–1.10)	0.95 (0.88–1.01)	1.00 (0.88–1.13)	0.99 (0.73–1.34)
Difficulty in obtaining orgasm, n=28 217					
Cases (%)	2 006 (13)	553 (13)	817 (13)	232 (14)	29 (12)
Crude OR (95% CI)	Reference	1.08 (0.97–1.19)	1.02 (0.93–1.11)	1.13 (0.98–1.31)	0.94 (0.64–1.39)
Adjusted OR* (95% CI)	Reference	1.07 (0.96–1.18)	1.01 (0.93–1.11)	1.12 (0.96–1.29)	0.92 (0.62–1.36)
Insufficient lubrication, n=28 308					
Cases (%)	1 133 (7)	314 (8)	481 (8)	139 (8)	24 (10)
Crude OR (95% CI)	Reference	1.08 (0.95–1.23)	1.06 (0.95–1.19)	1.19 (0.99–1.43)	1.43 (0.93–2.19)
Adjusted OR* (95% CI)	Reference	1.09 (0.96–1.25)	1.02 (0.91–1.14)	1.17 (0.97–1.41)	1.42 (0.93–1.19)
Dyspareunia, n=28 398					
Cases (%)	1 469 (9)	372 (9)	562 (9)	158 (10)	26 (11)
Crude OR (95% CI)	Reference	0.98 (0.87–1.10)	0.95 (0.86–1.05)	1.04 (0.87–1.23)	1.18 (0.78–1.77)
Adjusted OR* (95% CI)	Reference	0.97 (0.86–1.10)	0.96 (0.87–1.07)	1.05 (0.88–1.25)	1.17 (0.77–1.77)
Entry dyspareunia, n=28 006					
Cases (%)	453 (3)	115 (3)	201 (3)	62 (4)	12 (5)
Crude OR (95% CI)	Reference	0.98 (0.80–1.21)	1.11 (0.94–1.31)	1.33 (1.01–1.74)	1.77 (0.98–3.19)
Adjusted OR* (95% CI)	Reference	0.98 (0.79–1.20)	1.09 (0.92–1.30)	1.29 (0.98–1.69)	1.74 (0.97–3.15)
Deep dyspareunia, n=28 006					
Cases (%)	1 035 (7)	265 (7)	355 (6)	103 (6)	14 (6)
Crude OR (95% CI)	Reference	0.99 (0.86–1.14)	0.85 (0.75–0.96)	0.95 (0.77–1.18)	0.88 (0.51–1.51)
Adjusted OR* (95% CI)	Reference	0.98 (0.85–1.13)	0.87 (0.77–0.99)	0.99 (0.80–1.22)	0.88 (0.51–1.51)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
CI: Confidence interval; OR: Odds ratio.

Supplemental table 3: Sexual problems by mode of birth in participants with complete data.

	Only sponta- neous births	Instrumental vagi- nal birth, ever	Only c-sections	Spontaneous VBAC	Instrumental VBAC	C-section after vaginal birth
One or more sexual problem(s), n=32 638						
Cases (%)	7 615 (37)	1 643 (38)	1 144 (42)	651 (37)	177 (44)	1 043 (39)
Crude OR (95% CI)	Reference	1.03 (0.96–1.10)	1.21 (1.12–1.32)	1.00 (0.90–1.10)	1.34 (1.10–1.64)	1.10 (1.01–1.20)
Adjusted OR* (95% CI)	Reference	1.02 (0.95–1.09)	1.16 (1.07–1.26)	1.00 (0.90–1.10)	1.34 (1.10–1.64)	1.09 (1.00–1.18)
Reduced desire, n=33 360						
Cases (%)	4 547 (22)	956 (21)	644 (23)	395 (22)	100 (24)	602 (22)
Crude OR (95% CI)	Reference	0.99 (0.92–1.07)	1.07 (0.97–1.17)	1.02 (0.91–1.14)	1.17 (0.93–1.47)	1.03 (0.94–1.14)
Adjusted OR* (95% CI)	Reference	0.99 (0.92–1.07)	1.03 (0.94–1.13)	1.02 (0.91–1.14)	1.17 (0.93–1.47)	1.02 (0.93–1.13)
Difficulty in obtaining orgasm, n=32 915						
Cases (%)	2 621 (13)	590 (13)	377 (14)	233 (13)	69 (17)	361 (13)
Crude OR (95% CI)	Reference	1.07 (0.97–1.18)	1.08 (0.96–1.22)	1.04 (0.90–1.20)	1.43 (1.10–1.85)	1.08 (0.96–1.21)
Adjusted OR* (95% CI)	Reference	1.06 (0.96–1.16)	1.03 (0.92–1.16)	1.04 (0.90–1.20)	1.42 (1.09–1.84)	1.07 (0.95–1.21)
Insufficient lubrication, n=33 033						
Cases (%)	1 551 (7)	351 (8)	310 (11)	126 (7)	39 (10)	272 (10)
Crude OR (95% CI)	Reference	1.07 (0.95–1.21)	1.55 (1.36–1.76)	0.94 (0.79–1.13)	1.31 (0.94–1.83)	1.40 (1.22–1.60)
Adjusted OR* (95% CI)	Reference	1.00 (0.89–1.13)	1.40 (1.23–1.60)	0.95 (0.79–1.14)	1.23 (0.88–1.72)	1.35 (1.18–1.55)
Dyspareunia, n=33 140						
Cases (%)	1 858 (9)	407 (9)	417 (15)	164 (9)	48 (12)	282 (10)
Crude OR (95% CI)	Reference	1.03 (0.92–1.16)	1.79 (1.60–2.00)	1.03 (0.87–1.21)	1.36 (1.00–1.84)	1.19 (1.05–1.36)
Adjusted OR* (95% CI)	Reference	1.05 (0.93–1.17)	1.76 (1.57–1.98)	1.04 (0.88–1.23)	1.39 (1.02–1.89)	1.16 (1.02–1.33)
Entry dyspareunia, n=32 645						
Cases (%)	573 (3)	148 (3)	219 (8)	67 (4)	21 (5)	101 (4)
Crude OR (95% CI)	Reference	1.23 (1.02–1.48)	3.04 (2.59–3.57)	1.37 (1.06–1.77)	1.93 (1.24–3.02)	1.38 (1.11–1.71)
Adjusted OR* (95% CI)	Reference	1.19 (0.99–1.43)	2.81 (2.38–3.32)	1.37 (1.06–1.77)	1.89 (1.20–2.95)	1.36 (1.09–1.68)
Deep dyspareunia, n=32 645						
Cases (%)	1 308 (6)	253 (6)	206 (8)	96 (5)	29 (7)	182 (7)
Crude OR (95% CI)	Reference	0.91 (0.79–1.04)	1.20 (1.03–1.40)	0.84 (0.68–1.04)	1.15 (0.79–1.69)	1.08 (0.92–1.27)
Adjusted OR* (95% CI)	Reference	0.94 (0.82–1.09)	1.21 (1.04–1.42)	0.85 (0.69–1.06)	1.21 (0.82–1.77)	1.05 (0.89–1.24)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
C-section: Caesarean section; CI: Confidence interval; OR: Odds ratio; VBAC: Vaginal birth after caesarean section.

Supplemental table 4: Sexual problems by degree of perineal tear in participants with complete data.

	No tear/first degree	Second degree	Episiotomy	Anal sphincter tear
One or more sexual problem(s), n=25 655				
Cases (%)	5 434 (37)	1 430 (38)	2 086 (36)	644 (37)
Crude OR (95% CI)	Reference	1.04 (0.96–1.12)	0.95 (0.89–1.01)	1.00 (0.90–1.10)
Adjusted OR* (95% CI)	Reference	1.03 (0.95–1.11)	0.95 (0.89–1.02)	0.98 (0.89–1.09)
Reduced sexual desire, n=26 194				
Cases (%)	3 247 (22)	859 (23)	1 228 (21)	382 (22)
Crude OR (95% CI)	Reference	1.03 (0.94–1.12)	0.94 (0.87–1.01)	0.99 (0.88–1.11)
Adjusted OR* (95% CI)	Reference	1.01 (0.93–1.11)	0.95 (0.88–1.02)	0.98 (0.87–1.10)
Difficulty in obtaining orgasm, n=25 861				
Cases (%)	1 852 (13)	512 (14)	749 (13)	244 (14)
Crude OR (95% CI)	Reference	1.09 (0.98–1.21)	1.02 (0.93–1.12)	1.13 (0.98–1.30)
Adjusted OR* (95% CI)	Reference	1.07 (0.96–1.19)	1.02 (0.93–1.11)	1.11 (0.96–1.28)
Insufficient lubrication, n=25 945				
Cases (%)	1 051 (7)	286 (8)	437 (8)	146 (8)
Crude OR (95% CI)	Reference	1.06 (0.93–1.22)	1.05 (0.93–1.18)	1.18 (0.99–1.42)
Adjusted OR* (95% CI)	Reference	1.08 (0.94–1.24)	1.00 (0.89–1.12)	1.16 (0.97–1.40)
Dyspareunia, n=26 028				
Cases (%)	1 348 (9)	340 (9)	519 (9)	160 (9)
Crude OR (95% CI)	Reference	0.98 (0.86–1.11)	0.96 (0.87–1.07)	1.00 (0.84–1.18)
Adjusted OR* (95% CI)	Reference	0.98 (0.86–1.11)	0.98 (0.88–1.09)	1.01 (0.85–1.20)
Entry dyspareunia, n=25 670				
Cases (%)	415 (3)	103 (3)	187 (3)	65 (4)
Crude OR (95% CI)	Reference	0.97 (0.78–1.20)	1.14 (0.96–1.36)	1.33 (1.02–1.74)
Adjusted OR* (95% CI)	Reference	0.97 (0.78–1.21)	1.12 (0.94–1.34)	1.31 (1.00–1.71)
Deep dyspareunia, n=25 670				
Cases (%)	954 (7)	245 (7)	326 (6)	101 (6)
Crude OR (95% CI)	Reference	1.00 (0.87–1.16)	0.85 (0.75–0.97)	0.89 (0.72–1.09)
Adjusted OR* (95% CI)	Reference	1.00 (0.86–1.15)	0.88 (0.77–1.00)	0.91 (0.74–1.13)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy. CI: Confidence interval; OR: Odds ratio.

Supplemental table 5: Exposures in participants and non-participants.

	Participants in							
	The DNBC*		The maternal follow-up		This study		One or more sexual problems†	
Mode of birth, n (%)								
All	88 128		43 639		37 417		35 514	
Only spontaneous births	54 728	(62)	27 440	(63)	23 608	(63)	22 496	(63)
Instrumental vaginal birth, ever	11 521	(13)	5 845	(13)	5 003	(13)	4 736	(13)
Only c-sections	8 386	(10)	3 895	(9)	3 244	(9)	3 014	(9)
Spontaneous VBAC	4 565	(5)	2 355	(5)	2 038	(5)	1 931	(5)
Instrumental VBAC	1 080	(1)	526	(1)	457	(1)	431	(1)
C-section after vaginal birth	7 848	(9)	3 578	(8)	3 067	(8)	2 906	(8)
Degree of perineal tear, n (%)‡								
All	67 516		33 889		29 253		27 864	
No tear or first degree	38 625	(57)	19 094	(56)	16 404	(56)	15 682	(56)
Second degree	9 590	(14)	4 888	(14)	4 267	(15)	4 047	(15)
Episiotomy	15 025	(22)	7 662	(23)	6 615	(23)	6 274	(23)
Anal sphincter tear	4 276	(6)	2 245	(7)	1 967	(7)	1 861	(7)

*Women with a live- or stillbirth in the DNBC.

†The outcome with highest percentage of missing data.

‡Women with a vaginal birth and no birth prior to 1994.

C-section: Caesarean section; DNBC: Danish National Birth Cohort; VBAC: Vaginal birth after caesarean section.

Supplemental table 6: Frequent dyspareunia by mode of birth.

	Only sponta- neous births	Instrumental vagi- nal birth, ever	Only c-sections	Spontaneous VBAC	Instrumental VBAC	C-section after vaginal birth
Dyspareunia, n=36 266						
Cases (%)	415 (2)	97 (2)	166 (5)	30 (3)	13 (3)	74 (3)
Crude OR (95% CI)	Reference	1.10 (0.88–1.38)	3.06 (2.54–3.68)	0.84 (0.57–1.21)	1.63 (0.93–2.85)	1.39 (1.08–1.78)
Adjusted OR* (95% CI)	Reference	1.09 (0.87–1.36)	2.82 (2.32–3.41)	0.83 (0.57–1.21)	1.59 (0.90–2.78)	1.32 (1.02–1.69)
Entry dyspareunia, n=35 720						
Cases (%)	181 (1)	42 (1)	106 (4)	15 (1)	8 (2)	32 (1)
Crude OR (95% CI)	Reference	1.10 (0.78–1.54)	4.49 (2.36–3.51)	0.96 (0.57–1.63)	2.32 (1.13–4.73)	1.37 (0.94–2.00)
Adjusted OR* (95% CI)	Reference	1.02 (0.73–1.43)	3.92 (3.03–5.05)	0.95 (0.56–1.61)	2.17 (1.06–4.45)	1.32 (0.90–1.93)
Deep dyspareunia, n=35 720						
Cases (%)	263 (1)	63 (1)	73 (2)	18 (1)	8 (2)	44 (2)
Crude OR (95% CI)	Reference	1.14 (0.86–1.50)	2.10 (1.61–2.72)	0.79 (0.49–1.28)	1.58 (0.78–3.23)	1.30 (0.94–1.79)
Adjusted OR* (95% CI)	Reference	1.17 (0.89–1.55)	2.01 (1.53–2.64)	0.79 (0.49–1.28)	1.60 (0.78–3.27)	1.21 (0.88–1.67)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
C-section: Caesarean section; CI: Confidence interval; OR: Odds ratio; VBAC: Vaginal birth after caesarean section.

Supplemental table 7: Participant Characteristics by Degree of Perineal Tear.

	Degree of perineal tear				
	All (n=29 253)	None or first (n=16 404)	Second (n=4 267)	Episiotomy (n=6 615)	Anal sphincter (n=1 967)
Age at first birth, n (%)					
<25	4 522 (15)	2 763 (17)	563 (13)	993 (15)	203 (10)
25–29	16 073 (55)	9 010 (55)	2 394 (56)	3 566 (54)	1 103 (56)
30–34	7 269 (25)	3 926 (24)	1 085 (25)	1 716 (26)	542 (28)
≥35	1 389 (5)	705 (4)	225 (5)	340 (5)	119 (6)
Socio-occupational status, n (%)*					
Low	1 623 (6)	939 (6)	227 (6)	367 (6)	90 (5)
Middle	9 094 (33)	5 065 (33)	1 367 (34)	2 081 (34)	581 (31)
High	16 804 (61)	9 459 (61)	2 421 (60)	3 748 (60)	1 176 (64)
Missing	1 732	941	252	419	120
Prepregnant BMI, n (%)*					
<18.5	1 169 (4)	661 (4)	120 (3)	320 (5)	68 (4)
18.5–24.9	19 579 (72)	11 142 (73)	2 731 (69)	4 401 (72)	1 305 (72)
25.0–29.9	4 801 (18)	2 573 (17)	823 (21)	1 066 (17)	339 (19)
≥30.0	1 654 (6)	923 (6)	280 (7)	340 (6)	111 (6)
Missing	2 050	1 105	313	488	144
Exercise in pregnancy, min/week, n (%)*					
None	16 147 (57)	8 981 (58)	2 345 (58)	3 735 (60)	1 086 (59)
1–180	9 112 (33)	5 120 (33)	1 372 (34)	2 008 (32)	612 (33)
>180	2 289 (8)	1 382 (9)	301 (7)	458 (7)	148 (8)
Missing	1 705	921	249	414	121
Smoking in pregnancy, n (%)*					
No smoking	22 390 (81)	12 437 (80)	3 304 (81)	5 096 (81)	1 553 (83)
Smoking cessation	2 461 (9)	1 415 (9)	395 (10)	488 (8)	163 (9)

Supplemental table 7: Participant characteristics by degree of perineal tear (continued).

	Degree of perineal tear				
	All (n=29 253)	None or first (n=16 404)	Second (n=4 267)	Episiotomy (n=6 615)	Anal sphincter (n=1 967)
Smoking	2 930 (11)	1 749 (11)	360 (9)	674 (11)	147 (8)
Missing	1 472	803	208	357	104
Self-assessed health, n (%)*					
Very good	15 564 (56)	8 814 (57)	2 265 (56)	3 472 (56)	1 013 (54)
Normal	11 408 (41)	6 357 (41)	1 677 (42)	2 569 (41)	805 (43)
Not so good	695 (3)	361 (2)	98 (2)	190 (3)	46 (2)
Missing	1 586	872	227	384	103
Presence of disease, n (%)*†					
No	16 450 (60)	9 049 (58)	2 511 (62)	3 713 (60)	1 177 (63)
Yes	11 109 (40)	6 428 (42)	1 518 (38)	2 484 (40)	679 (37)
Missing	1 694	927	238	418	111

*Percentage of non-missing values.

†Diseases that, according to the women, had been confirmed by a physician, including hypertensive disorders, diseases of the heart, thyroid, or musculoskeletal system, epilepsy, diabetes, gynaecological diseases, and mental illness.

BMI: Body mass index.

Supplemental table 8: Frequent dyspareunia by degree of perineal tear.

	No tear/first degree	Second degree	Episiotomy	Anal sphincter tear
Dyspareunia, n=28 398				
Cases (%)	296 (2)	80 (2)	116 (2)	37 (2)
Crude OR (95% CI)	Reference	1.04 (0.81–1.34)	0.98 (0.78–1.21)	1.05 (0.74–1.48)
Adjusted OR* (95% CI)	Reference	1.04 (0.81–1.34)	0.99 (0.80–1.23)	1.06 (0.75–1.50)
Entry dyspareunia, n=28 006				
Cases (%)	122 (1)	32 (1)	53 (1)	20 (1)
Crude OR (95% CI)	Reference	1.02 (0.69–1.50)	1.09 (0.78–1.50)	1.38 (0.86–2.22)
Adjusted OR* (95% CI)	Reference	1.01 (0.68–1.50)	1.05 (0.76–1.46)	1.32 (0.82–2.13)
Deep dyspareunia, n=28 006				
Cases (%)	199 (1)	55 (1)	67 (1)	24 (1)
Crude OR (95% CI)	Reference	1.07 (0.79–1.45)	0.84 (0.63–1.11)	1.01 (0.66–1.55)
Adjusted OR* (95% CI)	Reference	1.08 (0.80–1.47)	0.87 (0.66–1.15)	1.09 (0.71–1.67)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
CI: Confidence interval; OR: Odds ratio.

Supplemental table 9: Sexual problems by mode of birth in women who had their first birth in the DNBC.

	Only sponta- neous births	Instrumental vag- inal birth, ever	Only c-sections	Spontaneous VBAC	Instrumental VBAC	C-section after vaginal birth
One or more sexual problem(s), n=17 587						
Cases (%)	4 069 (38)	920 (39)	865 (41)	342 (39)	90 (46)	517 (40)
Crude OR (95% CI)	Reference	1.07 (0.98–1.18)	1.17 (1.06–1.28)	1.04 (0.90–1.19)	1.43 (1.08–1.90)	1.10 (0.98–1.24)
Adjusted OR* (95% CI)	Reference	1.07 (0.98–1.18)	1.15 (1.04–1.27)	1.04 (0.90–1.20)	1.43 (1.08–1.91)	1.09 (0.97–1.23)
Reduced desire, n=17 941						
Cases (%)	2 466 (22)	541 (23)	500 (23)	211 (23)	52 (26)	295 (22)
Crude OR (95% CI)	Reference	1.02 (0.92–1.13)	1.05 (0.94–1.17)	1.05 (0.90–1.24)	1.22 (0.89–1.68)	1.00 (0.87–1.15)
Adjusted OR* (95% CI)	Reference	1.02 (0.92–1.14)	1.04 (0.93–1.17)	1.06 (0.90–1.24)	1.22 (0.89–1.68)	0.98 (0.86–1.13)
Difficulty in obtaining orgasm, n=17 730						
Cases (%)	1 397 (13)	332 (14)	285 (13)	131 (15)	33 (17)	176 (14)
Crude OR (95% CI)	Reference	1.11 (0.98–1.27)	1.05 (0.92–1.21)	1.16 (0.96–1.41)	1.37 (0.94–2.00)	1.06 (0.90–1.26)
Adjusted OR* (95% CI)	Reference	1.11 (0.97–1.26)	1.04 (0.91–1.20)	1.16 (0.96–1.41)	1.38 (0.94–2.01)	1.06 (0.89–1.25)
Insufficient lubrication, n=17 784						
Cases (%)	738 (7)	173 (7)	220 (10)	55 (6)	21 (11)	124 (10)
Crude OR (95% CI)	Reference	1.09 (0.92–1.29)	1.59 (1.35–1.86)	0.90 (0.68–1.19)	1.65 (1.04–2.61)	1.44 (1.18–1.76)
Adjusted OR* (95% CI)	Reference	1.03 (0.87–1.23)	1.38 (1.17–1.62)	0.91 (0.68–1.20)	1.64 (1.03–2.60)	1.45 (1.19–1.77)
Dyspareunia, n=17 840						
Cases (%)	995 (9)	230 (10)	312 (15)	82 (9)	28 (14)	157 (12)
Crude OR (95% CI)	Reference	1.07 (0.92–1.25)	1.71 (1.49–1.96)	1.00 (0.79–1.27)	1.65 (1.10–2.48)	1.35 (1.13–1.62)
Adjusted OR* (95% CI)	Reference	1.09 (0.93–1.26)	1.69 (1.47–1.94)	1.00 (0.79–1.27)	1.68 (1.12–2.53)	1.31 (1.09–1.57)
Entry dyspareunia, n=17 573						
Cases (%)	300 (3)	80 (3)	158 (8)	33 (4)	11 (6)	54 (4)
Crude OR (95% CI)	Reference	1.24 (0.97–1.60)	2.87 (2.36–3.51)	1.35 (0.93–1.94)	2.09 (1.13–3.88)	1.52 (1.13–2.04)
Adjusted OR* (95% CI)	Reference	1.20 (0.93–1.54)	2.56 (2.08–3.14)	1.35 (0.93–1.95)	2.06 (1.11–3.83)	1.52 (1.13–2.04)
Deep dyspareunia, n=17 573						
Cases (%)	721 (7)	151 (6)	160 (8)	50 (6)	18 (9)	182 (8)
Crude OR (95% CI)	Reference	0.97 (0.81–1.16)	1.16 (0.97–1.39)	0.83 (0.62–1.12)	1.42 (0.87–2.32)	1.27 (1.03–1.57)
Adjusted OR* (95% CI)	Reference	1.00 (0.83–1.20)	1.21 (1.01–1.45)	0.84 (0.62–1.12)	1.48 (0.90–2.42)	1.21 (0.98–1.50)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
C-section: Caesarean section; CI: Confidence interval; DNBC: Danish National Birth Cohort; OR: Odds ratio; VBAC: Vaginal birth after caesarean section.

Supplemental table 10: Sexual problems by degree of perineal tear in women who had their first birth in the DNBC.

	No tear/first degree	Second degree	Episiotomy	Anal sphincter tear
One or more sexual problem(s), n=15 496				
Cases (%)	3 251 (38)	1 087 (39)	1 120 (37)	480 (39)
Crude OR (95% CI)	Reference	1.03 (0.95–1.13)	0.94 (0.87–1.03)	1.01 (0.90–1.14)
Adjusted OR* (95% CI)	Reference	1.04 (0.95–1.13)	0.94 (0.86–1.02)	1.02 (0.90–1.15)
Reduced sexual desire, n=15 794				
Cases (%)	1 971 (23)	650 (23)	655 (21)	289 (23)
Crude OR (95% CI)	Reference	0.99 (0.90–1.10)	0.91 (0.82–1.00)	1.00 (0.87–1.15)
Adjusted OR* (95% CI)	Reference	1.00 (0.90–1.11)	0.91 (0.82–1.01)	1.01 (0.88–1.16)
Difficulty in obtaining orgasm, n=15 610				
Cases (%)	1 108 (13)	386 (14)	402 (13)	173 (14)
Crude OR (95% CI)	Reference	1.07 (0.95–1.22)	1.01 (0.90–1.15)	1.08 (0.91–1.28)
Adjusted OR* (95% CI)	Reference	1.07 (0.95–1.21)	1.01 (0.89–1.14)	1.08 (0.91–1.28)
Insufficient lubrication, n=15 656				
Cases (%)	572 (7)	208 (7)	224 (7)	107 (9)
Crude OR (95% CI)	Reference	1.12 (0.95–1.32)	1.10 (0.94–1.29)	1.31 (1.05–1.62)
Adjusted OR* (95% CI)	Reference	1.11 (0.94–1.31)	1.07 (0.91–1.25)	1.27 (1.03–1.58)
Dyspareunia, n=15 705				
Cases (%)	834 (10)	261 (9)	269 (9)	128 (10)
Crude OR (95% CI)	Reference	0.94 (0.82–1.09)	0.89 (0.77–1.03)	1.05 (0.87–1.28)
Adjusted OR* (95% CI)	Reference	0.95 (0.82–1.10)	0.89 (0.77–1.03)	1.08 (0.89–1.32)
Entry dyspareunia, n=15 494				
Cases (%)	247 (3)	78 (3)	102 (3)	51 (4)
Crude OR (95% CI)	Reference	0.96 (0.74–1.24)	1.16 (0.92–1.46)	1.43 (1.04–1.94)
Adjusted OR* (95% CI)	Reference	0.95 (0.73–1.23)	1.13 (0.90–1.43)	1.41 (1.03–1.92)
Deep dyspareunia, n=15 494				
Cases (%)	603 (7)	191 (7)	172 (6)	82 (7)
Crude OR (95% CI)	Reference	0.96 (0.81–1.14)	0.78 (0.66–0.93)	0.92 (0.73–1.17)
Adjusted OR* (95% CI)	Reference	0.97 (0.82–1.15)	0.79 (0.66–0.94)	0.97 (0.76–1.22)

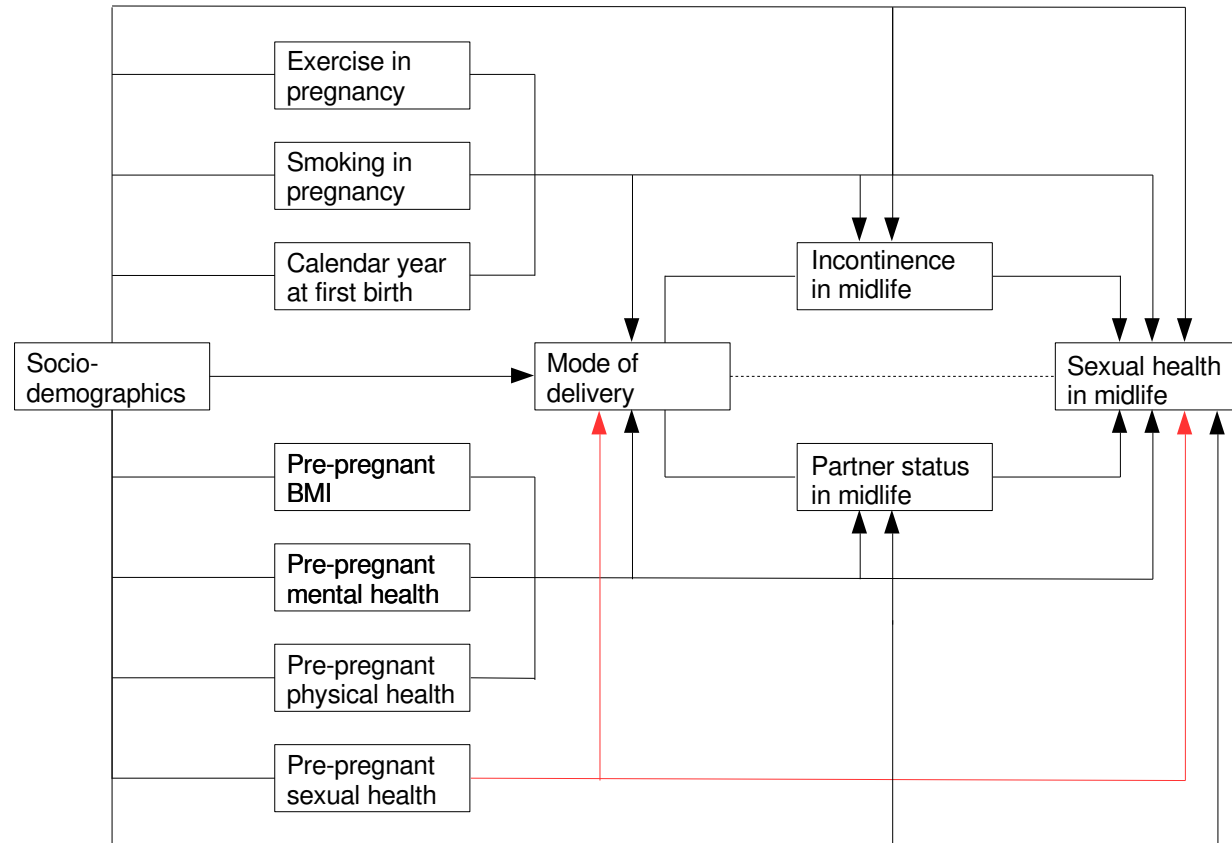
*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy. CI: Confidence interval; DNBC: Danish National Birth Cohort; OR: Odds ratio.

Supplemental table 11: Sexual problems by mode of birth in participants without vaginismus.

	Only sponta- neous births	Instrumental vagi- nal birth, ever	Only c-sections	Spontaneous VBAC	Instrumental VBAC	C-section after vaginal birth
One or more sexual problem(s), n=35 343						
Cases (%)	8 196 (37)	1 759 (37)	1 229 (41)	705 (37)	185 (43)	1 119 (39)
Crude OR (95% CI)	Reference	1.02 (0.96–1.09)	1.21 (1.12–1.31)	1.00 (0.91–1.11)	1.33 (1.10–1.61)	1.10 (1.02–1.20)
Adjusted OR* (95% CI)	Reference	1.02 (0.95–1.08)	1.17 (1.08–1.27)	1.00 (0.91–1.11)	1.33 (1.09–1.61)	1.09 (1.01–1.18)
Reduced desire, n=36 139						
Cases (%)	4 917 (22)	1 034 (21)	702 (23)	431 (22)	103 (24)	639 (22)
Crude OR (95% CI)	Reference	0.99 (0.92–1.07)	1.08 (0.99–1.18)	1.03 (0.93–1.15)	1.13 (0.90–1.41)	1.02 (0.93–1.11)
Adjusted OR* (95% CI)	Reference	0.99 (0.92–1.07)	1.04 (0.95–1.14)	1.03 (0.92–1.15)	1.13 (0.90–1.41)	1.00 (0.91–1.10)
Difficulty in obtaining orgasm, n=35 650						
Cases (%)	2 822 (13)	631 (13)	406 (13)	252 (13)	71 (17)	390 (13)
Crude OR (95% CI)	Reference	1.06 (0.97–1.16)	1.08 (0.97–1.21)	1.04 (0.91–1.20)	1.39 (1.07–1.80)	1.09 (0.97–1.22)
Adjusted OR* (95% CI)	Reference	1.05 (0.96–1.16)	1.05 (0.94–1.18)	1.04 (0.91–1.20)	1.38 (1.07–1.79)	1.08 (0.97–1.21)
Insufficient lubrication, n=35 777						
Cases (%)	1 663 (7)	370 (8)	318 (11)	131 (7)	42 (10)	290 (10)
Crude OR (95% CI)	Reference	1.05 (0.94–1.18)	1.48 (1.30–1.67)	0.91 (0.76–1.09)	1.35 (0.98–1.87)	1.39 (1.22–1.59)
Adjusted OR* (95% CI)	Reference	0.99 (0.88–1.12)	1.36 (1.19–1.55)	0.89 (0.74–1.08)	1.28 (0.92–1.77)	1.35 (1.18–1.54)
Dyspareunia, n=35 894						
Cases (%)	1 958 (9)	431 (9)	432 (14)	160 (8)	51 (12)	301 (10)
Crude OR (95% CI)	Reference	1.04 (0.93–1.16)	1.75 (1.56–1.96)	0.94 (0.80–1.12)	1.40 (1.04–1.89)	1.22 (1.07–1.38)
Adjusted OR* (95% CI)	Reference	1.06 (0.95–1.18)	1.73 (1.54–1.94)	0.95 (0.80–1.12)	1.42 (1.06–1.92)	1.18 (1.04–1.35)
Entry dyspareunia, n=35 352						
Cases (%)	613 (3)	153 (3)	223 (8)	60 (3)	21 (5)	109 (4)
Crude OR (95% CI)	Reference	1.19 (0.99–1.42)	2.88 (2.46–3.38)	1.14 (0.87–1.49)	1.84 (1.18–2.88)	1.40 (1.13–1.72)
Adjusted OR* (95% CI)	Reference	1.15 (0.96–1.37)	2.71 (2.30–3.19)	1.14 (0.87–1.49)	1.80 (1.15–2.82)	1.38 (1.12–1.70)
Deep dyspareunia, n=35 352						
Cases (%)	1 367 (6)	269 (6)	222 (8)	98 (5)	32 (8)	195 (7)
Crude OR (95% CI)	Reference	0.93 (0.81–1.06)	1.24 (1.07–1.44)	0.82 (0.66–1.01)	1.25 (0.87–1.80)	1.12 (0.96–1.30)
Adjusted OR* (95% CI)	Reference	0.96 (0.84–1.10)	1.25 (1.07–1.45)	0.83 (0.67–1.03)	1.29 (0.90–1.87)	1.08 (0.93–1.27)

*Adjusted for maternal age at first birth, calendar year at first birth, pre-pregnant body mass index, socio-occupational status, self-assessed health, disease, exercise in pregnancy, and smoking in pregnancy.
C-section: Caesarean section; CI: Confidence interval; OR: Odds ratio; VBAC: Vaginal birth after caesarean section.

Supplemental figure 1: Directed acyclic graph



The red arrows represent unadjusted confounding from pre-pregnant sexual health. The dotted line represents the study question. BMI: Body mass index.