Table E1: Questionnaire items related to atopic symptoms and diseases in the Norwegian Mother and Child Cohort Study

Questionnaire	Questionnaire Item	Alternatives	Variable Name
6 months	Does your child have or has he/she had atopic eczema (childhood eczema)?	1) No 2) Yes	**Atopic eczema 6 months**
18 months	Does your child have or has he/she had atopic eczema (childhood eczema)?	1) No 2) Yes, has now 3) Yes, had previously	**Current atopic eczema 18 months** (if "Yes, has now")
36 months	Has your child suffered from allergy affecting eyes or nose, e.g hayfever since the age of 18 months?	1) No 2) Yes, has now 3) Yes, had previously	**Rhinoconjunctivitis 18-36 months** If "yes, has now" and/or "yes, had previously"
36 months	Has your child suffered from asthma since the age of 18 months? Has your child taken any medication during the last 12 months?	1) No 2) Yes, has now 3) Yes, had previously 1) No 2) Yes. If yes, give the name of the medication (free text)	**Current asthma at 36 months and asthma medication** If "yes, has now" and reported use of inhaled glucocorticoids and/or beta-2-agonists

The 6-month postnatal questionnaire is available from: http://www.fhi.no/dokumenter/9ecca1c459.pdf, the 18-month postnatal questionnaire from: http://www.fhi.no/dokumenter/2640dd4bcc.pdf, and the 36-month postnatal questionnaire from: http://www.fhi.no/dokumenter/1927d528c2.pdf

Table E2: Demographic and perinatal characteristics with distribution of probiotic milk consumption in pregnancy for study population with information from post-natal questionnaires at 6, 18, and 36 months and total population (including non-responders to the postnatal questionnaires)

	Percent with characteristics		% of probiotic consumers by levels of characteristics[a]	
	Study pop. (n=40,614)	Total pop. (n=76,226)	Study pop. (n=40,614)	Total pop. (n=76,226)
Consumed probiotic milk or yogurt				
No	63	64		
Yes	37	36		
Marital status				
Married	50	48	37	37
Cohabitated	47	49	37	36
Single	3	3	35	32
Maternal education				
Less than high school	6	20	26	26
High school	27	12	29	29
Up to 4 years of college	44	43	38	38
> 4 years of college	23	25	46	46
Pre-pregnancy body mass index, kg/m^2				
<18.5	3	3	35	34
18.5-24.9	66	65	40	39
25-29.9	22	22	34	33
30+	9	10	26	27
Daily smoking at least once during pregnancy				
No	92	90	38	38
Yes	8	10	24	24
Maternal history of asthma/allergy				
No	74	75	37	36
Yes	26	25	39	38
Parity				
Primiparous	49	46	40	40
Multiparous	51	54	34	33
Maternal age at delivery, years				
<20-24	9	11	30	30
25-29	33	33	37	36
30-34	40	39	38	37
35+	18	17	39	38
Cesarean-section				
No	86	86	37	36
Yes	14	14	36	35
Birth weight,g				
<2500	3	3	35	34
2500-2999	9	9	37	36
3000-3499	29	28	38	37
3500-4000	38	37	37	37

>4000	21	23	36	35
Gender				
Boys	51	51	37	36
Girls	49	49	37	36

Less than 3% missing for probiotic milk consumption in pregnancy, maternal history of asthma/allergy, parity, maternal age at delivery, cesarean section, birthweight, child's gender. 3-5% missing for marital status, maternal education, pre-pregnancy body mass index, daily smoking at least once during pregnancy

Table E3: Association between maternal (pregnancy) intake of probiotic milk and yogurt in mL/day and atopic eczema, rhinitis, and asthma

Maternal probiotic consumption (mL/day)		**Atopic eczema 6 months**		**Current atopic eczema 18 months**		**Rhinoconjunctivitis 18-36 months**		**Current asthma 36 months and asthma medication**	
	N	Cases %	Adjusted [a] RR (95% CI)	Cases %	Adjusted [a] RR (95% CI)	Cases %	Adjusted [a] RR (95% CI)	Cases %	Adjusted [a] RR (95% CI)
None (ref)	25,239	12.5	1	13.6	1	3.8	1	5.8	1
13-28.3 mL/day	6,596	11.6	0.93 (0.86, 1.00)	13.9	1.03 (0.96, 1.10)	3.0	0.81 (0.69, 0.94)	5.4	0.97 (0.86, 1.09)
≥ 28.4 mL/day	8,295	11.9	0.95 (0.88, 1.02)	13.2	0.97 (0.91, 1.04)	3.5	0.93 (0.81, 1.07)	5.7	1.02 (0.92, 1.14)

[a]Adjusted for maternal age, smoking in pregnancy, maternal education, pre-pregnancy BMI, dietary fiber intake (g/10 MJ), total energy intake, breastfeeding, maternal history of allergic disease, parity, and infant's gender.

Table E4: Demographic and perinatal characteristics by maternal probiotic intake of 40,614 children enrolled in the Norwegian Mother and Child Cohort Study between March 2002 and November 2008, who had completed all questionnaires up to the 36-months questionnaire

	N with characteristic	Percent of total (n=40,614)	% of probiotic consumers by levels of characteristic[a]
Maternal income (in 1,000 NOK)			
>200	10,427	26	33
200-400	24,677	63	38
>400	4,326	11	45
Medication use due to upper respiratory tract infections (URTI) in pregnancy [b]			
No	37,624	93	37
Yes	2,990	7	38
Medication use due to lower respiratory tract infections (LRTI) in pregnancy [c]			
No	39,745	98	37
Yes	869	2	39
Medication use due to urinary tract infections (UTI) in pregnancy			
No	37,432	92	37
Yes	3,182	8	37
Medication use due to headache/migraine in pregnancy			
No	31,986	79	37
Yes	8,628	21	37
Medication use due to common cold/flu in pregnancy			
No	38,591	95	37
Yes	2,023	5	39
Medication use due to fever in pregnancy			
No	39,870	98	37
Yes	744	2	43
Gestational age, weeks			
<37	1,900	5	35
37-39	15,561	38	36
40-41	19,741	49	38
>41	3,412	8	38
Day care			
No day care by 18 months	11,086	28	33
Day care at 6 months	596	1	34
Started day care by 12 months	5,271	13	38
Started day care by 15 months	17,144	43	39
Started day care by 18 months	5,922	15	38

[a] *P*-values <.05 for maternal income, medication use due to common cold/flu and fever in pregnancy, gestational age, and day care. [b] URTI includes tonsillitis, sinusitis, and/or otitis. [c] LRTI includes pneumonia and/or bronchiolitis. Information missing for day care (n=595), maternal income (n=1,184). Medication use due to the various conditions was derived from prenatal questionnaires at gestational weeks 18 and

30 and from the 6-month postnatal questionnaire which queried about the women's medical conditions during the last part of pregnancy. The women were asked: "Have you experienced any of the following illnesses or problems during this pregnancy?" : "Throat infection", Sinusitis/ear infection, "Influenza/common cold", "Pneumonia/bronchitis" "Urinary tract infections", "Fever", "Migraine/other headache". For each of the conditions, the women were asked whether she had taken any medication. We defined medication use due to the various conditions if the women had reported use of medication in the prenatal questionnaires and/or in the 6-month postnatal questionnaire.

Table E5: Association between maternal probiotic milk and yogurt consumption in pregnancy and atopic eczema, rhinoconjuctivitis, and asthma among 40,614 children in MoBa whose mothers' had completed the 6, 18, and 36 months postnatal questionnaires

	Cases n	**Cases %***	**Unadjusted RR (95% CI)**	**Adjusted [a] RR (95% CI)**
Atopic eczema 6 months	4,849	12.2	0.94 (0.89, 1.00)	0.93 (0.88, 0.99)
Current atopic eczema 18 months	5,440	13.6	0.99 (0.94, 1.04)	1.00 (0.95, 1.06)
Rhinoconjuctivitis 18-36 months	1,425	3.6	0.85 (0.76, 0.95)	0.87 (0.78, 0.98)
Current asthma 36 months and asthma medication	2,260	5.7	0.96 (0.88, 1.04)	1.00 (0.92, 1.10)

[a]Adjusted for maternal age, smoking in pregnancy, maternal education, pre-pregnancy BMI, dietary fiber intake (g/10 MJ), breastfeeding, maternal history of allergic disease, parity, infant's gender, mode of delivery (Cesarean section versus vaginal), total energy intake (MJ/day), gestational age, maternal income, use of medication in pregnancy due to fever, headache/migraine, URTI, LRTI, UTI, and common cold/flu, and day care (for outcomes reported at 18 months or later). *Missing outcome data for: atopic eczema 6 months (2.1%), current atopic eczema 18 months (1.3%), rhinoconjuctivitis 18-36 months (2.9%), current asthma 36 months and asthma medication (2.6%). The case percent is calculated with the total N in the denominator with no missing information

Table E6: Association between consumption of probiotic milk products by child only, mother only (in pregnancy) and by both the mother and the child and atopic eczema, rhinoconjunctivitis, and asthma among 40,614 children in the MoBa study who had completed all of the follow-up questionnaires

		Current atopic eczema 18 months		**Rhinoconjunctivis 18-36 months**		**Current asthma 36 months and asthma medication**	
Probiotic milk products	**N**	Cases %	Adjusted[a] RR (95% CI)	Cases %	Adjusted [a] RR (95% CI)	Cases %	Adjusted RR (95% CI)
No intake (ref)	18,572	13.6	1	3.9	1	5.8	1
Child intake only	7,000	13.6	1.02 (0.94, 1.09)	3.7	0.96 (0.82, 1.11)	5.9	1.10 (0.98, 1.24)
Mother intake only	7,437	14.6	1.07 (1.00, 1.15)	3.6	0.92 (0.79, 1.07)	5.3	0.98 (0.87, 1.10)
Mother and child	7,605	12.5	0.93 (0.86, 1.00)	3.0	0.80 (0.68, 0.94)	5.8	1.09 (0.97, 1.22)

[a]Adjusted for maternal age, smoking in pregnancy, maternal education, pre-pregnancy BMI, dietary fiber intake (g/10 MJ), breastfeeding, maternal history of allergic disease, parity, infant's gender, mode of delivery, total energy intake (MJ/day), gestational age, maternal income, use of medication in pregnancy due to fever, headache/migraine, URTI, LRTI, UTI, and common cold/flu, and day care

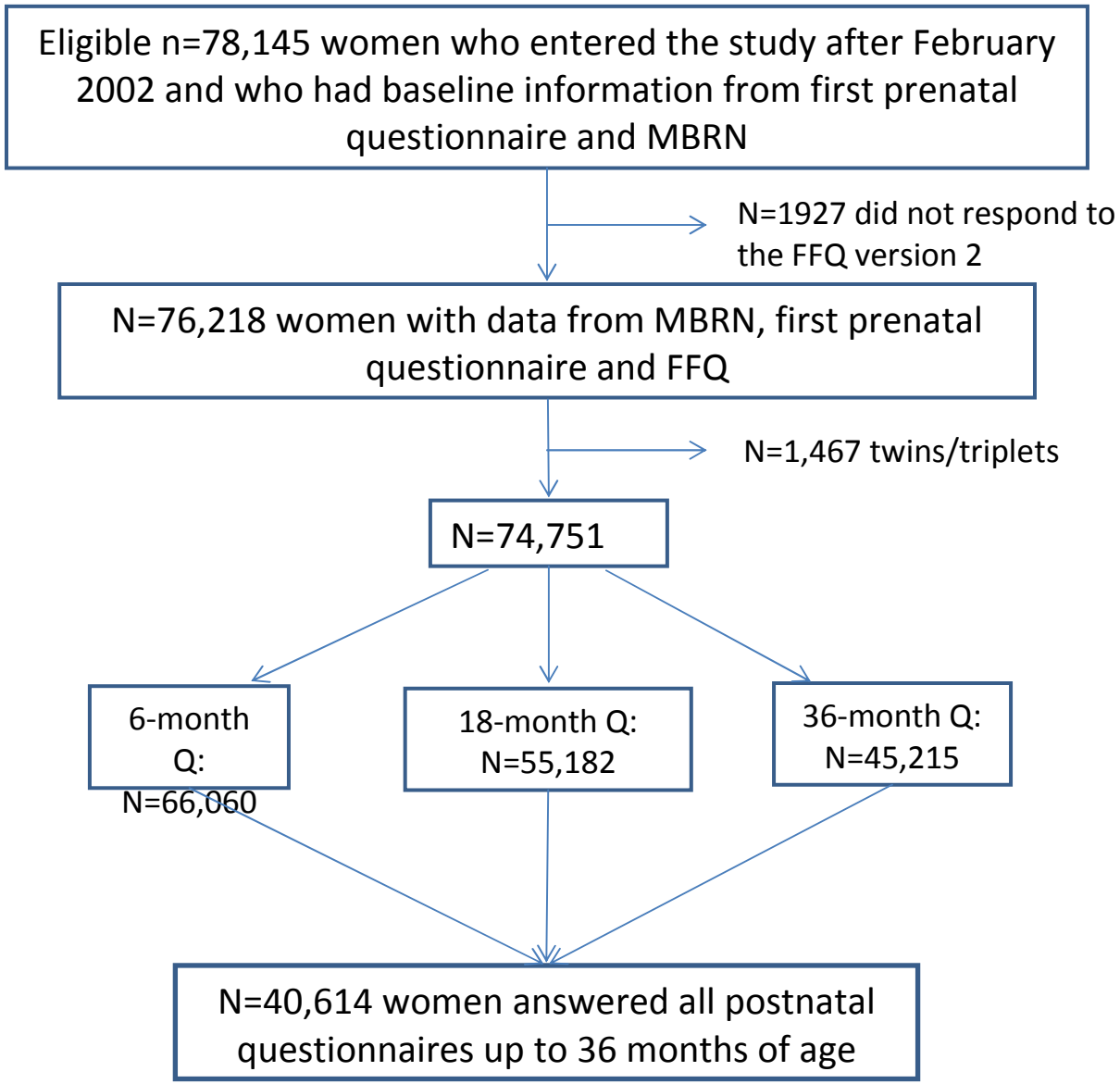

Figure E1: Flow-chart of inclusion of study participants from all eligible participants in the Norwegian Mother and Child Cohort Study who entered the study after February 2002