

SUPPLEMENTAL FILE TO

Guo et al. Early-Life Diet and Risk of Inflammatory Bowel Disease: A Pooled Study in Two Scandinavian Birth Cohorts

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ADDITIONAL INFORMATION

Child questionnaires

The ABIS cohort aims to study the environmental determinants of immune-mediated diseases, such as Type 1 diabetes, juvenile arthritis, celiac disease and IBD. Similarly, the MoBa cohort has focused chiefly on early-life environmental risk factors for IMDs, but also for neuropsychological functioning, etc. Hence, the questionnaires covered broad information on the child's upbringing and lifestyle, including information on the child's food intake in both cohorts. These questionnaires used to capture child's diet at one and three years of age have been used in numerous diet-outcome association studies from MoBa[1-4] and ABIS.[5, 6] The parents were asked to fill in "How many times per day do the child eat/or drink the following food items" (ABIS) and "How often does your child drink or eat the following at present" (MoBa). In total, there were 4-7 response alternatives ranging from never to ≥ 4 times per day.

Furthermore, MoBa dietary data have shown a fair-to-moderate tracking of fruit, vegetable, and sugar-sweetened beverage intake from 18 months to 7 years, indicating that they capture important dietary habits established in early life.[7] In ABIS, while results related to breastfeeding have been possible to validate from registration at well-baby clinics and found to be reliable, it has not been possible to validate the reported food frequencies via other parallel dietary registrations. Due to lack of other dietary assessment methods assessing food frequency intake in ABIS and MoBa, the food questions have not been compared to alternative dietary records and are used to capture overall diet rather than to estimate energy or nutrient intakes. To reduce the risk of erroneously recorded data, the child's food intake level was within each cohort modeled as a trichotomous exposure variable.

Ethics

The establishment of the Norwegian Mother, Father and Child Cohort Study (MoBa) and the initial data collection were based on a license from the Norwegian Data Protection Agency and approval from the Regional Committees for Medical and Health Research Ethics. MoBa is currently regulated by the Norwegian Health Registry Act. The Regional Committees for Medical and Health Research Ethics approved the present study in 2020 (REK id 153328). The current study uses version 12 of the quality assured MoBa files released for research in 2019.

The ABIS study was approved at the Research Ethics Committees of the Faculty of Health Sciences at Linköping University, Sweden, 1997/ 96,287 and 2003/03-092, and the Medical Faculty of Lund University, Sweden, and connection to national registers Dnr 03-513 and 2013/253-32 Research Ethics Committee of the Faculty of Health Sciences at Linköping University, Sweden. ABIS data storage at the University of Gothenburg has been approved by the Ethical Review Authority (Dnr 2020-06581).

TABLES

Supplemental Table 1. Previous literature investigating childhood diet and IBD etiology^a

Author, year (country)	Study design	Study population	Food groups exposure	Main Findings
Amre, 2007 (Canada)[8]	Case-control study	130 CD cases with a mean age at diagnosis of 14.2 years.	Energy intake, macronutrients and fatty acids.	- A higher intake of vegetables (aOR 0.69 [0.33-1.44, <i>p</i> -trend=0.03]), fruits (aOR 0.37 [0.16-0.86, <i>p</i> -trend=0.02]), fish (aOR 0.46 [0.20-1.06, <i>p</i> -trend=0.2]) and dietary fiber (aOR 0.12 [0.04–0.37, <i>p</i> -trend<0.001]) were associated with a lower risk of CD. - A higher consumption of long-chain omega-3 fatty acids and a higher ratio of long-chain omega-3/omega-6 were significantly associated with a reduced risk of CD (aOR 0.44 [0.19-1.00, <i>p</i> -trend=0.03]; aOR 0.32 [0.14-0.71, <i>p</i> -trend=0.02])
Baron, 2005 (France)[9]	Case-control study	282 IBD cases (CD <i>n</i> =222, UC <i>n</i> =60) with a median age of 13.5 (CD) and 14.1 (UC).	Introduction of flour, meat, and vegetables.	- No significant association between the age of introduction to flour, meat and vegetables and the risk of IBD.
D'Souza, 2008[10] (Canada)	Case-control study	149 CD cases aged 2.6-20.0 years (mean age 13.3 years).	Dietary patterns	- For girls, a western pattern was positively associated with CD (aOR 4.7 [1.6-14.2, <i>p</i> -trend =0.03]), whereas a prudent pattern was negatively associated with CD (aOR 0.3 [0.1-0.9, <i>p</i> -trend=0.02]). - A prudent pattern was associated with a reduced risk of CD in boys (aOR 0.2 [0.1-0.5, <i>p</i> -trend<0.001]).
Jakobsen, 2013 (Denmark)[11]	Case-control study	118 IBD cases (CD <i>n</i> =59, UC <i>n</i> =56, IBD-U <i>n</i> =3) aged 0-15 years.	Intake of food groups: bread, vegetables, fruit, cereals, fast food, soft drinks, candy.	- High soft drink consumption was positively associated with IBD (aOR 2.5 [1.0-6.2]) and CD (OR 2.9 [1.0–8.5]). - Daily vegetable consumption was a protective factor for CD (aOR 0.3 [0.1-1.0]) and UC (aOR 0.3 [0.1-0.8]). - Wholemeal bread consumption was associated with reduced risk of IBD (aOR 0.5 [0.3-0.9]) and CD (aOR 0.4 [0.2-0.9])
Strisciuglio, 2017 (Italy)[12]	Case-control study	264 IBD cases (CD <i>n</i> =102, UC <i>n</i> =162) aged 2-17 years.	Adherence to the Mediterranean diet.	- Low adherence to a Mediterranean-style diet was positively associated with UC (aOR 2.3 [1.2-4.5], <i>p</i> =0.01).
Trakman, 2022 (Australia/China)[13]	Case-control study	274 CD cases median age 36	Retrospective information on early-life processed food intake (4-12 mo, 1-5yrs, 5-10 yrs, 10-18 yrs)	- Individuals with Crohn's disease had a higher intake of ultra-processed foods and processed foods compared to healthy controls

^aThe literature search was performed and guided by an experienced research librarian on January 2, 2023 to identify eligible papers examining early-life food intake and the risk of inflammatory bowel disease. Inclusion criteria were peer-reviewed full-text articles in English published since 2000 reporting original data on participants <18 years.

Studies on breastfeeding, tap water, or gluten introduction were not included due to the scope of this paper. Firstly, reference lists of relevant systematic reviews found in the literature search were screened by titles. To broaden the number of eligible articles an additional search in PubMed was performed to find eligible articles published since 2016. Reference lists of all studies found relevant were screened by titles. Five articles were deemed eligible after reviewing full texts. Additionally, we added one more paper making the total number of 6 articles. IBD, inflammatory bowel disease; IBD-U, inflammatory bowel disease undetermined; CD, Crohn's disease; aOR, adjusted odds ratio; UC, ulcerative colitis.

Supplemental Table 2. Description of the categorisations used for Healthy Eating Index^a

	1 year (7–28 points)		3 years (7–28 points)	
	ABIS 12 months	MoBa 18 months ^b	ABIS 30–36 months	MoBa 36 months
Fruits and vegetables	Fruit or berries, vegetables, mushrooms	Fruit, peas or beans, other cooked vegetables, raw vegetables	Fruit, vegetables, mushrooms	Fruit, cooked vegetables, raw vegetables, salad
Dairy	Milk, yogurt, sour milk, cheese	Whole milk, low-fat milk, extra low-fat milk, skimmed milk, yogurt with active Lactobacillus, yogurt natural, yogurt with fruit, sour milk, cheese sandwich, formula	Milk, yogurt, cheese	Whole milk, low-fat milk, yogurt natural, yogurt or yogurt drink with fruit, yogurt with active Lactobacillus, brown cheese or brown cheese spread, other types of cheese
Meat	Game, beef, pork, sausage	Meat, sausage, meatballs, meat sandwich, liver paste	Game, beef, pork, sausage	Meat, rissoles, sausages, meat filling
Fish and egg ^c	Freshwater fish, fish from Baltic Sea, other fish, egg	Fish, fish balls, fish pudding, fish sandwich	Freshwater fish, fish from Baltic Sea, other fish, egg	Oily fish, white fish, fish pudding, fish cakes, fish balls, fish filling, eggs, boiled, fried, scrambled
Soft drinks	Juice	Juice, cordial, sweetened, cordial, diet, fizzy drinks diet, fizzy drinks	Cordial	Juice, cordial/nectar/squash/fizzy drinks, sweetened, cordial/nectar/squash/fizzy drinks, diet
Salty snacks	Chips	<i>Not available</i>	Chips or cheese doodles, popcorn	Crisps, potato snacks
Sweet snacks	Chocolate, other sweets, coffee bread/ cookies/cake	Chocolate, other sweets/jellybeans/other confectionery, dessert/ice cream, cakes/waffles/biscuits	Chocolate cake/chocolate sweets, other sweets, ice cream, coffee bread/ cookies/cake	Chocolate, sweets/jelly babies, etc., popsicles, ice cream, biscuits, buns/cakes/waffles

^aFor each food group, intake frequency reported weekly was divided into quartiles with a score ranging from 1 to 4 points. For food groups recommended for a healthy diet (e.g., fruits and vegetables and fish and eggs), the lowest quartile was assigned 1 point, the intermediate quartiles were assigned a score of 2 and 3 and the highest quartile was given 4 points. In contrast, “unhealthy foods” such as salty and sweet snacks were given the lowest score (1 point) if intake was at the highest quartile of consumption. The possible range score of the final index is 7–28 (except for MoBa 1 year, where salty snacks were unavailable). The final score was divided into thirds.

^bFor MoBa 18 months questionnaire, data on salty snacks were not available. Hence total HEI for MoBa 18 months only ranged from 6–24 points.

^cWe modified the HEI and renamed the “white meat and fish” category as “fish and eggs,” as well as meat and red meat was changed to “meat.”

ABIS, All Babies in Southeast Sweden; HEI, Healthy Eating Index; MoBa, The Norwegian Mother, Father and Child Cohort Study.

Supplemental Table 3. Description of median and range within thirds of diet quality score and weekly intake frequencies of food groups^a

	ABIS		MoBa	
	12 months Median (range)	30-36 months Median (range)	18 months Median (range)	36 months Median (range)
Diet quality (score)^b				
Low	18.00 (≤19.00)	15.00 (≤16.00)	12.00 (≤13.00)	14.00 (≤16.00)
Medium	20.00 (20.00 – 21.00)	18.00 (17.00 – 18.00)	15.00 (14.00 – 16.00)	18.00 (17.00 – 19.00)
High	23.00 (≥22.00)	20.00 (≥19.00)	18.00 (≥17.00)	21.00 (≥20.00)
Meat (servings/week)				
Low	3.50 (≤3.50)	5.00 (≤5.00)	2.25 (≤2.99)	2.13 (≤2.74)
Medium	6.00 (3.51 – 6.00)	6.50 (5.01 – 7.49)	3.38 (3.00 – 4.74)	3.50 (2.75 – 4.49)
High	8.50 (≥6.01)	9.00 (≥7.50)	6.25 (≥4.75)	5.00 (≥4.50)
Fish (servings/week)				
Low	1.50 (≤1.50)	1.50 (≤1.50)	0.50 (≤1.99)	1.63 (≤2.37)
Medium	2.50 (1.51 – 2.50)	2.50 (1.51 – 2.50)	2.00 (2.00 – 2.49)	2.75 (2.38 – 3.62)
High	3.50 (≥2.51)	3.50 (≥2.51)	3.25 (≥2.50)	4.50 (≥3.63)
Dairy (servings/week)				
Low	8.50 (≤13.49)	12.00 (≤16.99)	14.50 (≤20.99)	18.00 (≤24.49)
Medium	1.650 (13.50 – 21.49)	21.00 (17.00 – 24.99)	27.50 (21.00 – 33.49)	29.00 (24.50 – 33.49)
High	26.50 (≥21.50)	30.00 (≥25.00)	42.00 (≥33.50)	39.50 (≥33.50)
Fruit (servings/week)				
Low	1.50 (≤1.50)	1.50 (≤1.50)	5.00 (≤5.00)	5.00 (≤6.99)
Medium	4.00 (1.50 – 6.99)	4.00 (1.51 – 6.99)	10.50 (5.01 – 10.50)	7.00 (7.00 – 13.99)
High	7.00 (≥7.00)	7.00 (≥7.00)	21.00 (≥10.51)	14.00 (≥14.00)
Vegetables (servings/week)				
Low	1.00 (≤3.00)	2.00 (≤4.49)	2.50 (≤4.49)	2.00 (≤3.99)
Medium	4.50 (3.01 – 5.50)	4.50 (4.50 – 7.49)	5.50 (4.50 – 7.49)	5.00 (4.00 – 5.99)
High	7.50 (≥5.51)	7.50 (≥7.50)	10.00 (≥7.50)	7.00 (≥6.00)
Grains (servings/week)				
Low	17.50 (≤18.00)	5.00 (≤8.49)	17.00 (≤21.99)	17.00 (≤21.24)
Medium	21.50 (18.01 – 24.49)	10.00 (8.50 – 11.99)	26.00 (22.00 – 31.49)	25.00 (21.25 – 29.37)
High	24.50 (≥24.50)	14.00 (≥12.00)	39.50 (≥31.50)	36.25 (≥29.38)
Potatoes (servings/week)				
Low	4.50 (≤4.50)	4.50 (≤4.50)	0.50 (≤1.99)	0.63 (≤1.99)
Medium	5.50 (4.51 – 7.49)	5.50 (4.51 – 5.50)	2.00 (2.00 – 4.99)	2.00 (2.00 – 2.99)
High	7.50 (≥7.50)	7.50 (≥5.51)	5.00 (≥5.00)	3.00 (≥3.00)
Sugar-fat-dense food (servings/week)				
Low	2.00 (≤2.00)	4.50 (≤6.49)	1.00 (≤2.00)	3.50 (≤6.49)
Medium	3.00 (2.01 – 3.00)	7.00 (6.50 – 8.99)	3.00 (2.01 – 3.99)	6.50 (6.50 – 9.49)

High	5.50 (≥ 3.01)	10.00 (≥ 9.00)	6.50 (≥ 4.00)	11.00 (≥ 9.50)
Sugar-sweetened beverages (servings/week)				
Low	0.00 (0.00) ^c	1.50 (≤ 1.50)	0.50 (<0.50) ^c	2.50 (≤ 2.50)
Medium	2.00 (≥ 0.50) ^c	4.00 (1.51 – 4.00)	5.00 (≥ 0.50) ^c	5.50 (2.51 – 7.50)
High		7.00 (≥ 4.01)		14.50 (≥ 7.51)

^aDue to differences in number of food items and questions between ABIS and MoBa, diet exposures were calculated into low, medium and high intake/diet quality based on weekly intake frequencies divided into thirds.

^bDiet quality was measured by Healthy Eating Index scores ranging from 7-28 points, except for MoBa 18 months, which ranged from 6-24 points due to unavailable data on Salty snacks.

^cIntake of sugar-sweetened beverages at the child's age of 1 year was not able to categorise into thirds due to the median intake was 0.0-0.5 servings/week; hence this food group was categorised into "no intake" (0.0 servings/week) and "some intakes" (≥ 0.5 servings/week).

Supplemental Table 4. Description of individual food groups

	1 year		3 years	
	ABIS 12 months	MoBa 18 months	ABIS 30-36 months	MoBa 36 months
Meat ^a	Game, beef, pork, sausage	Meat, sausage, meatballs, meat sandwich, liver paste	Game, beef, pork, sausage	Meat, rissoles, sausages, meat filling
Fish ^a	Freshwater fish, fish from Baltic Sea, other fish	Fish, fish balls, fish pudding, fish sandwich	Freshwater fish, fish from Baltic Sea, other fish	Oily fish, white fish, fish pudding, fish cakes, fish balls, fish filling
Dairy	Milk, yogurt, sour milk, whipped cream or crème fraiche, cheese	While milk, low-fat milk, extra low-fat milk, skimmed milk, yogurt with active Lactobacillus, yogurt natural, yogurt with fruit, sour milk, cheese sandwich, formula	Milk, yogurt, whipped cream or crème fraiche, cheese	While milk, low-fat milk, yogurt natural, yogurt or yogurt drink with fruit, yogurt with active Lactobacillus, brown cheese or brown cheese spread, other types of cheese
Fruits	Fruit or berries	Fruit	Fruit	Fruit
Vegetables	Vegetables, mushroom	Peas or beans, other cooked vegetables, raw vegetables	Vegetables, mushroom	Cooked vegetables, raw vegetables, salad
Grains ^b	Bread, porridge, gruel	Liver paste sandwich, meat sandwich, fish sandwich, cheese sandwich, jam/honey sandwich, sandwich with other fillings, baby porridge, home-made porridge, pasta, pancakes, rice	Porridge, pasta, gruel, cornflakes, or muesli	Meat filling, fish filling, brown cheese, brown cheese spread, other types of cheese, jam/honey/chocolate spread/other sweet spread/different fillings, pasta/spaghetti/noodles, pancakes, rice, pizza
Potatoes	Potatoes or roots, fried potatoes	Potatoes	Potatoes or roots, fried potatoes	Potatoes
Sugar-and fat-dense food	Chocolate, other sweets, chips or cheese doodles, coffee bread/cookies/cake	Chocolate, other sweets/jellybeans/other confectionery, dessert/ice cream, cakes/waffles/biscuits	Chocolate cake/chocolate sweets, other sweets, chips or cheese doodles, ice cream, coffee bread/cookies/cake	Chocolate, sweets/jelly babies, etc., crisps/potato snacks, popsicles, ice cream, biscuits, buns/cakes/waffles
Sugar-sweetened beverages	Prepared fruit drink	Juice, cordial sweetened, fizzy drinks	Cordial	Juice, cordial/nectar/squash/fizzy drinks sweetened

^aAny type of fish or meat sandwich or filling was assumed to be equal to ¼ portion (e.g., a meat sandwich was coded as a ¼ portion of meat). A cheese sandwich was defined as 1 portion of cheese.

^bAny type of sandwich or filling (e.g., liver paste, meat, fish filling) was assumed to equal 1 portion of bread.

ABIS, All Babies in Southeast Sweden; MoBa, The Norwegian Mother, Father and Child Cohort Study.

Supplemental Table 5. International Classification of Disease, Tenth Revision (ICD-10) codes for inflammatory bowel disease^a

Disease	ICD-10 (1997-)	Description
Inflammatory bowel disease	K52.3, CD + UC or mixed diagnosis of CD, UC and IBD-U	IBD diagnosis required ≥ 2 inpatient or non-primary outpatient care visits. Patients who shifted between subtypes of IBD but only had one diagnosis in the past 5 years were classified according to their most recent diagnosis. Patients with several CD, UC or IBD-U codes during follow-up were classified as (“any, non-specific”) IBD.
Crohn’s disease	K50	
Ulcerative colitis	K51	
IBD-unclassified	K52.3	

^aBased on the register-based IBD definition used in previous studies of children and adults.[14-16]
CD, Crohn’s disease, IBD, inflammatory bowel disease; IBD-U, inflammatory bowel disease unclassified; UC, ulcerative colitis.

Supplemental Table 6. Description of variables used in adjustment models^a

	ABIS	MoBa
Model 1		
Child's sex	Birth questionnaire	Medical Birth Registry of Norway
Parental origin ^b	Birth questionnaire	15 GW questionnaire
Maternal education ^c	Birth questionnaire	15 GW questionnaire
Paternal education ^c	Birth questionnaire	15 GW questionnaire
Parental IBD ^d	Birth questionnaire	Norwegian Patient Registry
Maternal comorbidities	Birth questionnaire	15 GW questionnaire
Model 2		
Maternal smoking	Birth questionnaire	15, 30 GW, 6 months questionnaires
Maternal age ^f	Swedish Medical Birth Registry	Medical Birth Registry of Norway
Delivery mode ^g	Birth questionnaire	Medical Birth Registry of Norway
Birth weight (g) ^h	Birth questionnaire	Medical Birth Registry of Norway
Gestational age (weeks)	Birth questionnaire	Medical Birth Registry of Norway
Full breastfeeding (months) ⁱ	12 months questionnaire	6 months questionnaire

^aData were only captured at one time point, except for maternal smoking (MoBa).

^bMother's native language (MoBa)/parent's country of birth (ABIS).

^cEducation at time of birth.

^dDefined as ≥ 1 parent with IBD and captured at birth/during pregnancy.

^eType 1 diabetes (insulin-treated diabetes before or during pregnancy [MoBa] or type 1 diabetes/insulin-treated diabetes [ABIS]), autoimmune thyroid disease or rheumatoid arthritis.

^f<15 years were defined as missing in ABIS (not applicable in MoBa) and >44 years were changed to missing in both cohorts.

^g<270 or >6,999 grams were changed to missing.

^h<22 or >45 weeks were changed to missing.

ⁱFull breastfeeding duration, including exclusive and predominant breastfeeding, was captured at one time point and categorised into <4 months, 4-6 months, >6 months.

ABIS, All Babies in Southeast Sweden; IBD, inflammatory bowel disease; MoBa, The Norwegian Mother, Father and Child Cohort Study.

Supplemental Table 7. Follow-up and incidence of IBD, CD and UC in the ABIS and MoBa cohorts

	N event	PYR of follow-up	Incidence rate per 100,000 PYR (95%CI) ^a	Cumulative incidence (%) at the end of follow-up ^a	Cumulative incidence (%) by <15 years of age ^b
ABIS					
IBD	76	234,027	32.47 (25.58, 40.64)	0.69 (0.54, 0.86)	0.15 (0.08, 0.24)
CD	29	234,265	12.38 (8.29, 17.78)	0.26 (0.18, 0.38)	0.07 (0.03, 0.14)
UC	35	234,259	14.95 (10.41, 20.78)	0.32 (0.22, 0.44)	0.05 (0.02, 0.12)
MoBa					
IBD	231	1,070,406	21.58 (18.89, 24.55)	0.33 (0.29, 0.37)	0.24 (0.20, 0.27)
CD	102	1,070,974	9.52 (7.77, 11.56)	0.15 (0.12, 0.18)	0.11 (0.09, 0.14)
UC	62	1,071,133	5.79 (4.44, 7.42)	0.09 (0.07, 0.11)	0.05 (0.04, 0.07)

^aEnd of follow-up was December 31, 2020 (ABIS) and December 31, 2021 (MoBa).

^bDue to the different follow-up time in ABIS and MoBa, we restricted this to IBD events with onset before 15 years of age.

ABIS, All Babies in Southeast Sweden study; CD, Crohn's disease; CI, confidence interval; IBD, inflammatory bowel disease; MoBa, The Norwegian Mother, Father and Child Cohort Study; PYR, person-year; UC, ulcerative colitis.

Supplemental Table 8. Characteristics of children at 1 year of age in the ABIS and MoBa birth cohorts divided by IBD subgroup

Characteristics	ABIS				MoBa			
	All participants (n=11,013)	IBD ^a (n=76)	CD (n=29)	UC (n=35)	All participants (n=70,267)	IBD ^a (n=231)	CD (n=102)	UC (n=62)
Child's sex								
Girls	5,290 (48.0)	35 (46.1)	13 (44.8)	15 (42.9)	34,340 (48.9)	100 (43.3)	45 (44.1)	35 (56.5)
Boys	5,723 (52.0)	41 (53.9)	16 (55.2)	20 (57.1)	35,927 (51.1)	131 (56.7)	57 (55.9)	27 (43.5)
Follow-up (years)								
Mean (SD)	21.3 (0.9)	16.0 (3.7)	15.5 (3.6)	16.4 (3.9)	15.2 (2.0)	11.5 (3.7)	11.5 (3.4)	12.3 (4.0)
Median (IQR)	21.3 (20.9-21.7)	16.9 (15.0-18.0)	16.9 (14.6-17.5)	17.3 (15.2-18.6)	15.2 (14.2-16.2)	12.0 (10.7-13.5)	11.5 (10.7-13.0)	13.4 (11.3-14.6)
Parental origin ^b								
Sweden/Norway	9,742 (88.5)	64 (84.2)	25 (86.2)	28 (80.0)	66,120 (94.1)	220 (95.2)	98 (96.1)	59 (95.2)
Missing data	240 (2.2)	0 (0.0)	0 (0.0)	0.0 (0.0)	586 (0.8)	1 (0.4)	0 (0.0)	1 (1.6)
Maternal education level (years) ^c								
≤11	789 (7.2)	10 (13.2)	5 (17.2)	5 (14.3)	4,233 (6.0)	15 (6.5)	7 (6.9)	4 (6.5)
12	5,971 (54.2)	44 (57.9)	16 (55.2)	20 (57.1)	19,192 (27.3)	67 (29.0)	28 (27.5)	21 (33.9)
≥13	4,006 (36.4)	22 (28.9)	8 (27.6)	10 (28.6)	45,984 (65.4)	146 (63.2)	67 (65.7)	36 (58.1)
Missing data	247 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	858 (1.2)	3 (1.3)	0 (0.0)	1 (1.6)
Paternal education level (years) ^c								
≤11	1,398 (12.7)	10 (13.2)	5 (17.2)	4 (11.4)	6,454 (9.2)	30 (13.0)	11 (10.8)	9 (14.5)
12	6,390 (58.0)	46 (60.5)	18 (62.1)	21 (60.0)	26,648 (37.9)	96 (41.6)	43 (42.2)	25 (40.3)
≥13	2,836 (25.8)	19 (25.0)	5 (17.2)	10 (28.6)	34,562 (49.2)	98 (42.4)	45 (44.1)	26 (41.9)
Missing data	389 (3.5)	1 (1.3)	1 (3.4)	0 (0.0)	2,603 (3.7)	7 (3.0)	3 (2.9)	2 (3.2)
Parental IBD ^d								
Yes	141 (1.3)	4 (5.3)	3 (10.3)	1 (2.9)	1,710 (2.4)	7 (3.0)	4 (3.9)	2 (3.2)
Maternal comorbidities ^e								
Yes	385 (3.5)	3 (3.9)	1 (3.4)	2 (5.7)	2,853 (4.1)	11 (4.8)	4 (3.9)	5 (8.1)
Maternal smoking in pregnancy								
Yes	1,009 (9.2)	8 (10.5)	4 (13.8)	3 (8.6)	5,517 (7.9)	26 (11.3)	8 (7.8)	11 (17.7)
Missing	247 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	867 (1.2)	2 (0.9)	0 (0.0)	2 (3.2)
Maternal age at delivery (years) ^f								
<25	1,555 (14.1)	41 (53.9)	15 (51.7)	4 (11.4)	6,639 (9.4)	20 (10.2)	7 (6.9)	7 (11.3)
25-34	7,907 (71.7)	33 (43.4)	12 (41.3)	27 (77.2)	51,063 (72.7)	174 (75.3)	79 (77.5)	47 (75.8)
35-44	1,358 (12.3)	8 (10.5)	3 (13.7)	4 (11.4)	12,530 (17.8)	37 (16.1)	16 (15.7)	8 (12.9)
Missing data	193 (1.8)	1 (1.3)	1 (3.4)	0 (0.0)	35 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Delivery mode								
Vaginal	8,905 (80.9)	59 (77.6)	24 (82.8)	27 (77.1)	59,989 (85.4)	192 (83.1)	82 (80.4)	49 (79.0)
Cesarean	1,240 (11.3)	11 (14.5)	3 (10.3)	5 (14.3)	10,278 (14.6)	39 (16.9)	20 (19.6)	13 (21.0)
Missing data	868 (7.9)	6 (7.9)	2 (6.9)	3 (8.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Birth weight (g) ^g								

Mean (SD)	3580.1 (543.4)	3588.6 (553.5)	3657.6 (477.4)	3620.2 (448.5)	3571.0 (578.4)	3625.5 (602.3)	3684.3 (597.5)	3540.4 (647.6)
Missing data	110 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	39 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Gestational age (weeks) ^h								
Mean (SD)	39.7 (1.7)	39.9 (1.5)	39.9 (1.3)	40.1 (1.2)	39.4 (1.9)	39.5 (1.7)	39.8 (1.8)	39.2 (1.7)
Missing data	194 (1.8)	1 (1.3)	0 (0.0)	0 (0.0)	289 (0.4)	1.0 (0.4)	1.0 (1.0)	0 (0.0)
Full breastfeeding (months)								
<4	2,675 (24.3)	23 (30.3)	13 (44.8)	9 (25.7)	27,641 (39.3)	86 (37.2)	45 (44.1)	19 (30.6)
4-6	3,402 (30.9)	23 (30.3)	9 (31.0)	9 (25.7)	30,561 (43.5)	102 (44.2)	42 (41.2)	33 (53.2)
>6	1,517 (13.8)	14 (18.4)	4 (13.8)	7 (20.0)	9,445 (13.4)	38 (16.5)	14 (13.7)	9 (14.5)
Missing data	3,419 (31.0)	16 (21.1)	3 (10.3)	10 (28.6)	2,620 (3.7)	5 (2.2)	1 (1.0)	1 (1.6)
Age at food introduction (months)								
<4	5,899 (53.6)	45 (59.2)	18 (62.1)	23 (65.7)	3731 (5.3)	15 (6.5)	9 (8.8)	2 (3.2)
4-6	5,085 (46.2)	31 (40.8)	11 (37.9)	12 (34.3)	62,102 (88.4)	201 (87.0)	85 (83.3)	59 (95.2)
>6	28 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	1,814 (2.6)	10 (4.3)	7 (6.9)	0 (0.0)
Missing data	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2620 (3.7)	5 (2.2)	1 (1.0)	1 (1.6)

Data are shown as numbers (percentages) unless indicated otherwise.

^aIncluding IBD-U events.

^bMother's native language (MoBa)/parent's country of birth (ABIS).

^cEducation at time of birth.

^dDefined as having at least one parent with IBD.

^eType 1 diabetes (insulin-treated diabetes before or during pregnancy [MoBa] or type 1 diabetes/insulin-treated diabetes [ABIS]), autoimmune thyroid disease or rheumatoid arthritis.

^f<15 years were defined as missing in ABIS (not applicable in MoBa) and >44 years were changed to missing in both cohorts.

^g<270 or >6,999 grams were changed to missing.

^h<22 or >45 weeks were changed to missing.

ABIS, All Babies in Southeast Sweden; CD, Crohn's disease; IBD, inflammatory bowel disease; IQR, interquartile range; MoBa, The Norwegian Mother, Father and Child Cohort Study; SD, standard deviation; UC, ulcerative colitis.

Supplemental Table 9. Characteristics of all children vs. those with data on diet exposure at 1 and 3 years of age

	ABIS			MoBa		
	All participants ^a (n =16,223)	Participants with diet data at 1 year (n = 11,013)	Participants with diet data at 3 years (n = 8,791)	All participants ^a (n=101,270)	Participants with diet data by 1 year (n = 70,267)	Participants with diet data by 3 years (n = 57,171)
Incidence rate per 100,000 PYR (95% CI)						
IBD	32.81 (27.04-39.44)	32.47 (25.58, 40.64)	38.41 (29.64-48.96)	21.58 (18.89, 24.55)	21.58 (18.89, 24.55)	26.47 (22.94-30.39)
CD	11.65 (8.33-15.87)	12.43 (8.33, 17.85)	11.86 (7.25-18.32)	9.54 (7.78, 11.58)	9.54 (7.78, 11.58)	12.13 (9.78-14.88)
UC	16.59 (12.57-21.50)	15.00 (10.44, 20.85)	20.14 (13.95-28.15)	5.80 (4.45, 7.44)	5.80 (4.45, 7.44)	6.86 (5.12-9.00)
Missing ^b	5 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)
Maternal smoking, n (%)						
Yes	1,760 (10.8)	1,009 (9.2)	747 (8.5)	9,597 (9.5)	5,517 (7.9)	4,347 (7.6)
Missing	380 (2.3)	247 (2.2)	201 (2.3)	1587 (1.6)	867 (1.2)	718 (1.3)
Maternal age at delivery (years), n (%)^c						
<17-24	2,551 (15.7)	1,555 (14.1)	1,162 (13.2)	11,071 (10.9)	6,639 (9.5)	5,160 (9.0)
25-34	11,440 (70.5)	7,907 (71.8)	6,380 (72.6)	72,431 (71.5)	51,063 (72.7)	41,660 (72.9)
35-44	1,972 (12.1)	1,359 (12.3)	1,108 (12.6)	17,714 (17.5)	12,530 (17.8)	10,320 (18.1)
Missing	260 (1.6)	193 (1.8)	141 (1.6)	54 (0.1)	35 (0.0)	31 (0.1)

^aAll participants = data at birth (ABIS) at pregnancy week 15 (MoBa); see the flowchart in Figure 1.

^bSome participants (n=5 [ABIS], n=1 [MoBa]) had missing values on incidence rate due to drop out before 1 year of age (ABIS) or getting IBD before 1 year (MoBa).

^cMaternal age <15 years and >44 years at delivery were considered implausible and changed to missing.

ABIS, All Babies in Southeast Sweden; CD, Crohn's disease; IBD, inflammatory bowel disease; MoBa, The Norwegian Mother, Father and Child Cohort Study; PYR, person-years; UC, ulcerative colitis.

Supplemental Table 10. Change in distribution of diet quality and food intake frequency from 1 to 3 years of age in children with data at both time points (n=65,962)^a

	Children		Change from 1 to 3 years		
	1 year, n (%)	3 years, n (%)	Decrease %	Stability %	Increase %
Diet quality					
ABIS	11,013	8,791	33.3	42.0	24.7
Low	4,549 (41.3)	2,918 (33.2)	n.c	25.5	15.8
Medium	3,437 (31.2)	2,255 (25.7)	16.3	6.1	8.9
High	3,027 (27.5)	3,618 (41.2)	17.0	10.5	n.c
MoBa	70,267	57,171	31.0	45.3	23.7
Low	21,389 (30.4)	22,899 (40.1)	n.c	13.8	16.6
Medium	26,637 (37.9)	18,236 (31.9)	10.6	20.2	7.0
High	22,241 (31.7)	16,036 (28.0)	20.4	11.2	n.c
Meat					
ABIS	11,013	8,791	37.3	41.3	21.4
Low	4,378 (39.8)	4,326 (49.2)	n.c	29.5	10.3
Medium	4,413 (40.1)	1,172 (13.3)	24.4	4.6	11.1
High	2,222 (20.2)	3,293 (37.5)	12.9	7.2	n.c
MoBa	70,267	57,171	44.2	38.2	17.6
Low	15,898 (22.6)	17,326 (30.3)	n.c	14.0	8.7
Medium	28,661 (40.8)	20,419 (35.7)	20.3	11.6	8.9
High	25,708 (36.6)	19,426 (34.0)	24.0	12.6	n.c
Fish					
ABIS	11,013	8,791	21.1	52.7	26.2
Low	6,349 (57.7)	2,700 (30.7)	n.c	34.4	23.2
Medium	3,984 (36.2)	5,207 (59.2)	15.9	17.3	3.0
High	680 (6.2)	884 (10.1)	5.2	1.0	n.c
MoBa	70,267	57,171	44.1	40.2	15.7
Low	12,115 (17.2)	14,005 (24.5)	n.c	11.0	6.3
Medium	33,398 (47.5)	23,949 (41.9)	21.8	16.3	9.4
High	24,754 (35.2)	19,217 (33.6)	22.3	12.9	n.c
Dairy					
ABIS	11,013	8,791	40.3	39.4	20.2
Low	3,667 (33.3)	2,728 (31.0)	n.c	20.2	12.8
Medium	3,545 (32.2)	2,998 (34.1)	16.7	8.4	7.2
High	3,801 (34.5)	3,065 (34.9)	23.7	10.8	n.c
MoBa	70,267	57,171	38.9	40.2	20.9
Low	22,635 (32.2)	18,751 (32.8)	n.c	19.9	12.3

Medium	22,857 (32.5)	18,697 (32.7)	15.3	8.6	8.6
High	24,775 (35.3)	19,723 (34.5)	23.6	11.6	n.c
Fruits					
ABIS	11,013	8,791	41.6	46.0	12.4
Low	1,063 (9.7)	559 (6.4)	n.c	4.7	5.0
Medium	2,191 (19.9)	2,199 (25.0)	7.8	4.7	7.4
High	7,759 (70.5)	6,033 (68.6)	33.8	36.6	n.c
MoBa	70,267	57,171	24.4	39.4	36.2
Low	21,167 (31.5)	10,527 (18.4)	n.c	17.0	14.5
Medium	41,956 (59.7)	21,580 (37.7)	20.8	17.3	21.6
High	6,144 (8.7)	25,064 (43.8)	3.6	5.2	n.c
Vegetables					
ABIS	11,013	8791	44.5	45.2	10.3
Low	1,004 (9.1)	1,116 (12.7)	n.c	5.1	4.0
Medium	2,117 (19.2)	1,962 (22.3)	8.6	4.4	6.3
High	7,892 (71.7)	5,713 (65.0)	35.9	35.7	n.c
MoBa	70,267	57,171	37.3	44.2	18.5
Low	18,266 (26.0)	15,949 (27.9)	n.c	17.1	8.9
Medium	23,426 (33.3)	15,952 (27.9)	15.6	8.1	9.7
High	28,575 (40.7)	25,270 (44.2)	21.7	18.9	n.c
Grains					
ABIS	11,013	8,791	38.4	40.4	21.2
Low	4,170 (37.9)	2,877 (32.7)	n.c	23.4	14.5
Medium	2,592 (23.5)	2,524 (28.7)	11.8	5.0	6.7
High	4,251 (38.6)	3,390 (38.6)	26.6	12.0	n.c
MoBa	70,267	57,171	40.3	39.2	20.6
Low	22,525 (32.1)	19,057 (33.3)	n.c	19.3	12.8
Medium	23,351 (33.2)	19,009 (33.2)	16.8	8.6	7.8
High	24,391 (34.7)	19,105 (33.4)	23.4	11.3	n.c
Potatoes					
ABIS	11,013	8,791	32.4	53.7	13.9
Low	6,040 (54.8)	4,896 (55.7)	n.c	41.6	13.2
Medium	588 (5.3)	1,613 (18.6)	3.4	1.3	0.7
High	4,385 (39.8)	2,264 (25.8)	29.1	10.8	n.c
MoBa	70,267	57,171	44.6	39.6	15.8
Low	7361 (10.5)	17,487 (30.6)	n.c	8.3	2.2
Medium	36,402 (51.8)	12,457 (21.8)	27.0	11.2	13.6
High	26,504 (37.7)	27,227 (47.6)	17.7	20.0	n.c
Sugar-and fat-dense food					

ABIS	11013	8,791	28.8	45.0	26.2
Low	5473 (49.7)	2,913 (33.1)	n.c	30.2	19.5
Medium	2882 (26.2)	2,836 (32.3)	13.0	6.4	6.7
High	2658 (24.1)	3,042 (34.6)	15.8	8.4	n.c
MoBa	70,267	57,171	40.2	42.0	17.9
Low	19,070 (27.1)	17,645 (30.9)	n.c	17.4	9.8
Medium	27,162 (38.7)	20,338 (35.6)	19.4	11.1	8.1
High	24,035 (34.2)	19,188 (33.6)	20.8	13.5	n.c
Sugar-sweetened beverages					
ABIS	11,013	8,791	7.0	38.9	54.1
No intake	8,735 (79.3)	4,054 (46.1)	n.c	25.2	54.1
Some intakes	2,278 (20.7)	4,694 (53.4)	7.0	13.6	n.c
MoBa	70,267	57,171	22.5	63.0	14.5
No intake	13,815 (19.7)	20,212 (35.4)	n.c	5.2	14.5
Some intakes	56,452 (80.3)	36,959 (64.6)	22.5	57.8	n.c

^aChange in the distribution of food intake from 1 to 3 years was only calculated in those children with data at both time points. Stability is shown as the percentage of the participants remaining at the same level of food intake at each time point. Decrease and increase are presented as percentages of individuals with a decreased or increased intake over time.

ABIS, All Babies in Southeast Sweden; MoBa, The Norwegian Mother, Father and Child Cohort Study; n.c, no change (decrease/increase) possible.

Supplemental Table 11. Cohort-specific hazard ratios for Inflammatory bowel disease by diet quality and food intake frequency at 1 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.89	0.53, 1.47	0.95	0.57, 1.58	0.87	0.48, 1.58	0.70	0.51, 0.95	0.69	0.51, 0.95	0.69	0.50, 0.95
High	0.56	0.30, 1.04	0.61	0.33, 1.14	0.45	0.20, 0.99	0.78	0.57, 1.08	0.79	0.57, 1.10	0.77	0.55, 1.08
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.84	0.51, 1.38	0.87	0.52, 1.44	0.79	0.43, 1.43	0.73	0.52, 1.01	0.75	0.52, 1.05	0.73	0.51, 1.03
High	0.75	0.39, 1.42	0.79	0.41, 1.49	0.82	0.39, 1.71	0.93	0.67, 1.28	0.99	0.71, 1.38	0.95	0.68, 1.33
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.92	0.57, 1.47	0.90	0.55, 1.45	0.62	0.33, 1.12	0.73	0.52, 1.01	0.78	0.55, 1.09	0.78	0.55, 1.09
High	0.40	0.09, 1.64	0.39	0.09, 1.61	0.22	0.03, 1.61	0.68	0.47, 0.96	0.73	0.50, 1.04	0.72	0.49, 1.05
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.16	0.66, 2.03	1.24	0.70, 2.18	1.58	0.80, 3.12	0.86	0.61, 1.20	0.91	0.64, 1.28	0.93	0.65, 1.31
High	1.11	0.63, 1.93	1.17	0.66, 2.06	1.30	0.65, 2.60	1.13	0.83, 1.53	1.16	0.84, 1.59	1.15	0.83, 1.58
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.36	0.48, 3.77	1.43	0.51, 3.97	6.94	0.90, 53.08	0.85	0.64, 1.11	0.87	0.658, 1.15	0.85	0.63, 1.12
High	1.57	0.62, 3.90	1.70	0.67, 4.29	6.02	0.81, 44.28	0.74	0.434, 1.26	0.68	0.38, 1.20	0.69	0.38, 1.21
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.89	0.39, 2.00	1.03	0.44, 2.40	2.28	0.65, 7.92	0.63	0.45, 0.87	0.64	0.45, 0.89	0.64	0.45, 0.89
High	0.71	0.34, 1.43	0.86	0.40, 1.82	1.58	0.48, 5.22	0.72	0.53, 0.97	0.76	0.55, 1.03	0.74	0.53, 1.00
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.13	0.62, 2.03	1.15	0.63, 2.07	0.97	0.46, 1.99	0.67	0.48, 0.92	0.68	0.49, 0.95	0.67	0.48, 0.94
High	1.09	0.64, 1.83	1.09	0.64, 1.83	1.20	0.64, 2.21	0.83	0.61, 1.12	0.88	0.64, 1.19	0.86	0.62, 1.16
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.32	0.56, 3.08	1.04	0.41, 2.63	1.11	0.39, 3.16	1.12	0.71, 1.76	1.23	0.76, 2.00	1.32	0.79, 2.18
High	0.67	0.40, 1.10	0.69	0.41, 1.13	0.67	0.36, 1.21	0.93	0.57, 1.48	1.03	0.62, 1.69	1.11	0.65, 1.87
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.49	0.88, 2.51	1.56	0.91, 2.63	2.10	1.11, 3.95	1.09	0.77, 1.51	1.06	0.75, 1.48	1.03	0.73, 1.45
High	1.22	0.69, 2.15	1.21	0.68, 2.14	1.60	0.79, 3.20	0.99	0.70, 1.39	0.99	0.70, 1.40	0.99	0.69, 1.40
Sugar-sweetened beverages^d												

No intake	—	—	—	—	—	—	—	—	—	—	—	—
Some intake	1.89	1.17, 3.04	1.73	1.06, 2.81	1.64	0.91, 2.92	1.20	0.84, 1.70	1.26	0.87, 1.82	1.26	0.86, 1.82

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

^dThe intake of sugar-sweetened beverages for 1 year was only available to analyse as “no intake” and “some intakes” (≥ 0.5 portion/week).

CI, confidence interval; HR, hazard ratio; IBD, inflammatory bowel disease.

Supplemental Table 12. Pooled hazard ratios adjusted for perinatal factors (Model 2) for IBD, CD and UC according to food intake frequency and diet quality at 1 and 3 years of age^a

	Adjusted HR (95% CI) 1 year			Adjusted HR (95% CI) 3 years		
	IBD	CD	UC	IBD	CD	UC
Diet quality^b						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	0.73 (0.52, 0.97)	0.79 (0.46, 1.36)	0.88 (0.53, 1.48)	0.96 (0.70, 1.31)	1.11 (0.70, 1.75)	1.58 (0.87, 2.88)
High	0.71 (0.55, 0.96)	0.74 (0.41, 1.33)	0.84 (0.47, 1.49)	0.90 (0.65, 1.26)	0.91 (0.55, 1.50)	1.27 (0.67, 2.41)
Per increase in score	0.97 (0.93, 1.01)	0.95 (0.85, 1.06)	0.98 (0.91, 1.07)	0.98 (0.94, 1.02)	1.00 (0.94, 1.06)	1.01 (0.93, 1.09)
Meat						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	0.74 (0.55, 1.01)	0.97 (0.43, 2.16)	0.65 (0.23, 1.86)	0.94 (0.67, 1.31)	1.18 (0.71, 1.95)	0.55 (0.29, 1.06)
High	0.93 (0.68, 1.26)	0.92 (0.37, 2.26)	0.98 (0.34, 2.80)	0.92 (0.66, 1.26)	1.11 (0.68, 1.82)	0.69 (0.38, 1.23)
Per increase in category	0.98 (0.84, 1.15)	0.89 (0.49, 1.63)	1.00 (0.54, 1.84)	0.96 (0.81, 1.14)	1.07 (0.82, 1.38)	0.84 (0.54, 1.29)
Fish						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	0.73 (0.54, 0.99)	0.73 (0.46, 1.15)	0.60 (0.36, 1.00)	0.89 (0.65, 1.21)	1.00 (0.56, 1.77)	0.63 (0.36, 1.12)
High	0.69 (0.48, 1.00)	0.64 (0.37, 1.11)	-	0.77 (0.54, 1.10)	0.87 (0.47, 1.63)	0.57 (0.29, 1.12)
Per increase in category	0.75 (0.52, 1.09)	0.77 (0.59, 1.01)	0.69 (0.50, 0.97)	0.89 (0.74, 1.07)	1.01 (0.64, 1.60)	0.74 (0.51, 1.06)
Dairy						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	1.04 (0.76, 1.41)	1.15 (0.55, 2.38)	1.10 (0.64, 1.90)	1.24 (0.88, 1.74)	1.50 (0.89, 2.54)	1.32 (0.67, 2.59)
High	1.18 (0.88, 1.58)	1.49 (0.73, 3.01)	0.94 (0.54, 1.62)	1.32 (0.95, 1.83)	1.43 (0.84, 2.41)	1.66 (0.88, 3.13)
Per increase in category	1.09 (0.94, 1.26)	1.18 (0.95, 1.48)	0.97 (0.74, 1.26)	1.12 (0.94, 1.33)	1.20 (0.92, 1.55)	1.18 (0.85, 1.62)
Fruits						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	1.90 (0.25, 14.56)	-	1.00 (0.48, 2.10)	0.98 (0.67, 1.42)	0.86 (0.49, 1.52)	-
High	1.62 (0.21, 12.62)	-	1.18 (0.44, 3.20)	0.77 (0.52, 1.13)	0.94 (0.54, 1.63)	-
Per increase in category	1.03 (0.64, 1.67)	-	0.96 (0.67, 1.39)	0.98 (0.63, 1.53)	1.00 (0.75, 1.33)	-
Vegetables						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	0.97 (0.37, 2.55)	0.91 (0.56, 1.49)	-	0.84 (0.59, 1.19)	0.78 (0.46, 1.35)	0.80 (0.42, 1.52)
High	0.95 (0.37, 2.48)	0.94 (0.59, 1.50)	-	0.79 (0.58, 1.09)	0.92 (0.57, 1.47)	0.55 (0.30, 1.02)
Per increase in category	0.88 (0.75, 1.03)	0.99 (0.79, 1.25)	-	0.85 (0.72, 1.01)	0.94 (0.73, 1.20)	0.71 (0.52, 0.97)
Grains						
Low	Reference	Reference	Reference	Reference	Reference	Reference
Medium	0.72 (0.53, 0.98)	0.79 (0.51, 1.24)	1.08 (0.20, 5.76)	1.06 (0.77, 1.46)	1.21 (0.77, 1.91)	1.49 (0.38, 5.83)
High	0.92 (0.69, 1.21)	0.85 (0.56, 1.30)	1.80 (0.35, 9.26)	0.96 (0.69, 1.33)	0.71 (0.42, 1.19)	1.14 (0.29, 4.52)

Per increase in category	0.96 (0.83, 1.11)	0.92 (0.74, 1.15)	1.33 (0.57, 3.11)	0.97 (0.82, 1.14)	0.83 (0.65, 1.08)	1.04 (0.54, 2.00)
Potatoes						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.27 (0.81, 2.01)	-	1.32 (0.49, 3.56)	0.96 (0.63, 1.48)	0.84 (0.47, 1.52)	1.02 (0.29, 3.59)
High	0.89 (0.60, 1.32)	0.80 (0.23, 2.80)	0.58 (0.22, 1.54)	0.94 (0.65, 1.37)	1.02 (0.65, 1.59)	0.77 (0.23, 2.61)
Per increase in category	0.91 (0.77, 1.08)	0.84 (0.44, 1.58)	0.76 (0.57, 1.03)	1.02 (0.76, 1.38)	1.04 (0.81, 1.32)	0.88 (0.43, 1.76)
Sugar-and fat-dense food						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.37 (0.77, 2.45)	1.18 (0.50, 2.79)	1.28 (0.59, 2.78)	1.07 (0.44, 2.63)	1.41 (0.17, 11.51)	1.01 (0.56, 1.85)
High	1.18 (0.65, 2.15)	1.11 (0.46, 2.66)	1.06 (0.47, 2.36)	1.42 (0.59, 3.41)	2.14 (0.27, 17.21)	0.79 (0.42, 1.50)
Per increase in category	1.09 (0.85, 1.39)	1.04 (0.76, 1.42)	1.03 (0.76, 1.38)	1.16 (0.77, 1.74)	1.24 (0.59, 2.61)	0.91 (0.63, 1.30)
Sugar-sweetened beverages						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.36 (0.99, 1.86) ^c	1.97 (0.55, 7.01) ^c	0.90 (0.17, 4.73) ^c	1.04 (0.65, 1.68)	0.90 (0.38, 2.11)	0.86 (0.46, 1.60)
High	-	-	-	0.94 (0.57, 1.56)	1.05 (0.47, 2.38)	0.77 (0.38, 1.52)
Per increase in category	-	-	-	0.97 (0.81, 1.16)	0.94 (0.58, 1.53)	0.93 (0.66, 1.29)

^aModel 2 was adjusted for the child's sex, parental IBD, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis, full breastfeeding duration, delivery mode, maternal smoking, maternal age, birth weight and gestational age. Some analyses could not converge because of too few events in ABIS. Per increase in diet quality reflects an increase in a healthy eating score (7-28 points), whereas per increase in food intake demonstrates an increase in category (e.g., low to medium).

^bDiet quality was measured using a Healthy eating index, including subgroups of fruits and vegetables, dairy foods, red meat, meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

^cThe intake of sugar-sweetened beverages for 1 year was only available to analyse as "no intake" and "some intakes" (≥ 0.5 portion/week).

ABIS, All Babies in Southeast Sweden; CD, Crohn's disease; CI, confidence interval; HR, hazard ratio; IBD, inflammatory bowel disease; UC, ulcerative colitis.

Supplemental Table 13. Cohort-specific hazard ratios for Crohn's disease by diet quality and food intake frequency at 1 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.58	0.25, 1.34	0.64	0.27, 1.48	0.59	0.22, 1.55	0.88	0.54, 1.394	0.88	0.54, 1.41	0.88	0.54, 1.41
High	0.25	0.07, 0.84	0.29	0.08, 0.98	0.34	0.09, 1.18	0.96	0.58, 1.55	0.97	0.58, 1.58	0.90	0.54, 1.490
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.62	0.28, 1.36	0.64	0.28, 1.43	0.71	0.29, 1.68	1.30	0.75, 2.22	1.30	0.74, 2.26	1.22	0.69, 2.12
High	0.37	0.10, 1.26	0.40	0.11, 1.38	0.33	0.07, 1.46	1.28	0.73, 2.20	1.34	0.76, 2.35	1.34	0.76, 2.34
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.64	0.28, 1.44	0.56	0.23, 1.32	0.45	0.16, 1.22	0.76	0.46, 1.23	0.86	0.51, 1.448	0.83	0.49, 1.39
High	0.47	0.06, 3.49	0.46	0.06, 3.40	0.44	0.05, 3.35	0.61	0.35, 1.05	0.70	0.39, 1.23	0.66	0.37, 1.16
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.54	0.54, 4.33	1.87	0.62, 5.58	2.29	0.70, 7.48	0.84	0.49, 1.42	0.87	0.51, 1.47	0.87	0.51, 1.47
High	2.22	0.85, 5.77	2.69	0.96, 7.46	2.32	0.72, 7.43	1.32	0.83, 2.09	1.31	0.81, 2.09	1.25	0.77, 2.01
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.81	0.19, 3.38	0.86	0.20, 3.63	-	-	1.01	0.66, 1.53	1.02	0.66, 1.57	0.97	0.62, 1.49
High	0.96	0.28, 3.21	1.08	0.31, 3.71	-	-	0.81	0.36, 1.83	0.73	0.30, 1.74	0.71	0.29, 1.71
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.27	0.07, 0.92	0.31	0.08, 1.10	0.43	0.08, 2.16	0.99	0.59, 1.63	0.99	0.59, 1.65	0.99	0.59, 1.65
High	0.33	0.13, 0.78	0.41	0.15, 1.05	0.75	0.21, 2.66	1.01	0.61, 1.63	1.03	0.62, 1.68	0.98	0.59, 1.61
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.94	0.36, 2.38	0.93	0.36, 2.37	0.95	0.33, 2.69	0.72	0.44, 1.17	0.78	0.47, 1.27	0.76	0.46, 1.24
High	0.82	0.35, 1.89	0.75	0.31, 1.77	0.84	0.32, 2.20	0.80	0.50, 1.26	0.86	0.53, 1.38	0.85	0.52, 1.36
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.94	0.21, 3.97	0.45	0.05, 3.32	-	-	1.33	0.63, 2.79	1.71	0.73, 3.97	1.62	0.69, 3.78
High	0.31	0.11, 0.82	0.32	0.12, 0.84	0.37	0.13, 1.00	1.25	0.58, 2.67	1.62	0.68, 3.84	1.60	0.67, 3.78
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2.29	0.98, 5.29	2.53	1.06, 6.00	2.26	0.83, 6.12	0.76	0.46, 1.24	0.78	0.47, 1.29	0.78	0.47, 1.29
High	1.44	0.54, 3.78	1.46	0.54, 3.93	1.73	0.59, 5.04	0.86	0.53, 1.39	0.91	0.55, 1.48	0.85	0.51, 1.41
Sugar-sweetened beverages^d												
No intake	—	—	—	—	—	—	—	—	—	—	—	—

Some intake	4.73	2.27, 9.84	4.25	2.01, 8.95	3.96	1.71, 9.12	1.01	0.61, 1.65	1.10	0.65, 1.85	1.07	0.63, 1.81
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^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age. Some analyses in ABIS did not converge due to few events.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

^dThe intake of sugar-sweetened beverages for 1 year was only available to analyse as "no intake" and "some intakes" (≥ 0.5 portion/week).

CD, Crohn's disease; CI, confidence interval; HR, hazard ratio.

Supplemental Table 14. Cohort-specific hazard ratios for Ulcerative colitis by diet quality and food intake frequency at 1 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.22	0.57, 2.59	1.30	0.60, 2.77	1.25	0.50, 3.08	0.73	0.40, 1.33	0.74	0.40, 1.36	0.75	0.40, 1.40
High	0.84	0.35, 2.01	0.90	0.37, 2.16	0.48	0.13, 1.76	0.83	0.44, 1.54	0.89	0.47, 1.68	0.96	0.50, 1.82
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.15	0.53, 2.49	1.19	0.55, 2.58	1.08	0.39, 2.99	0.46	0.24, 0.85	0.45	0.23, 0.85	0.44	0.23, 0.83
High	1.48	0.62, 3.50	1.52	0.63, 3.60	2.03	0.70, 5.81	0.62	0.34, 1.12	0.65	0.35, 1.18	0.58	0.31, 1.06
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.99	0.49, 1.97	1.04	0.51, 2.07	0.75	0.30, 1.84	0.46	0.25, 0.82	0.48	0.26, 0.87	0.54	0.28, 1.00
High	0.45	0.06, 3.33	0.43	0.05, 3.19	-	-	0.47	0.24, 0.89	0.47	0.23, 0.90	0.52	0.26, 1.03
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.21	0.54, 2.69	1.26	0.56, 2.82	1.60	0.56, 4.51	0.79	0.43, 1.44	0.86	0.46, 1.60	0.96	0.50, 1.81
High	0.93	0.40, 2.15	0.96	0.41, 2.21	1.12	0.37, 3.34	0.72	0.39, 1.31	0.80	0.43, 1.47	0.88	0.47, 1.65
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.70	0.35, 8.17	1.84	0.38, 8.92	3.65	0.44, 30.11	0.80	0.47, 1.35	0.90	0.51, 1.56	0.85	0.48, 1.48
High	1.79	0.42, 7.52	2.00	0.46, 8.56	2.25	0.28, 17.55	0.87	0.33, 2.28	1.00	0.37, 2.67	0.98	0.36, 2.63
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2.13	0.46, 9.87	2.35	0.50, 10.95	-	-	0.36	0.18, 0.71	0.34	0.16, 0.70	0.34	0.16, 0.69
High	1.53	0.36, 6.47	1.75	0.40, 7.50	-	-	0.62	0.35, 1.08	0.65	0.37, 1.14	0.59	0.33, 1.05
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2.29	0.87, 6.02	2.39	0.90, 6.28	2.66	0.63, 11.21	0.53	0.27, 1.01	0.52	0.26, 1.01	0.54	0.27, 1.07
High	2.53	1.05, 6.06	2.66	1.10, 6.37	4.88	1.39, 17.10	0.77	0.43, 1.36	0.81	0.45, 1.44	0.81	0.45, 1.46
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.97	0.67, 5.73	1.80	0.61, 5.31	3.05	0.95, 9.71	0.66	0.32, 1.33	0.69	0.33, 1.44	0.74	0.34, 1.61
High	0.66	0.30, 1.39	0.67	0.31, 1.41	0.74	0.27, 1.98	0.42	0.19, 0.90	0.44	0.19, 0.97	0.47	0.20, 1.08
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.19	0.54, 2.62	1.21	0.54, 2.66	2.30	0.85, 6.20	0.93	0.49, 1.75	0.86	0.45, 1.63	0.87	0.45, 1.68
High	1.16	0.51, 2.61	1.11	0.48, 2.52	1.56	0.51, 4.72	0.88	0.46, 1.68	0.81	0.41, 1.55	0.84	0.43, 1.65
Sugar-sweetened beverages^d												

No intake	—	—	—	—	—	—	—	—	—	—	—	—
Some intake	0.50	0.17, 1.40	0.46	0.16, 1.30	0.34	0.07, 1.47	1.75	0.79, 3.84	1.68	0.76, 3.69	1.90	0.81, 4.43

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age. Some analyses in ABIS did not converge due to few events.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

^dThe intake of sugar-sweetened beverages for 1 year was only available to analyse as “no intake” and “some intakes” (≥ 0.5 portion/week).

CI, confidence interval; HR, hazard ratio; UC, ulcerative colitis.

Supplemental Table 15. Cohort-specific hazard ratios for Inflammatory bowel disease by diet quality and food intake frequency at 3 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.23	0.65, 2.31	1.26	0.67, 2.35	1.21	0.54, 2.66	0.85	0.61, 1.18	0.87	0.62, 1.22	0.92	0.65, 1.29
High	1.05	0.58, 1.88	1.02	0.56, 1.83	0.61	0.27, 1.38	0.97	0.69, 1.36	1.02	0.72, 1.44	0.98	0.68, 1.39
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.90	0.41, 1.93	0.91	0.41, 1.98	0.75	0.24, 2.24	0.96	0.67, 1.35	0.95	0.67, 1.33	0.96	0.67, 1.36
High	0.96	0.56, 1.61	0.98	0.57, 1.66	0.98	0.48, 1.97	0.99	0.70, 1.39	0.92	0.64, 1.30	0.90	0.62, 1.28
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.07	0.61, 1.84	1.06	0.60, 1.84	1.15	0.53, 2.45	0.77	0.55, 1.06	0.81	0.57, 1.13	0.84	0.59, 1.18
High	1.13	0.47, 2.69	1.10	0.45, 2.61	1.10	0.34, 3.55	0.71	0.49, 1.01	0.73	0.50, 1.05	0.74	0.50, 1.07
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.06	0.56, 1.99	1.12	0.58, 2.11	1.05	0.45, 2.45	1.25	0.87, 1.77	1.27	0.88, 1.82	1.28	0.88, 1.84
High	1.29	0.70, 2.34	1.36	0.73, 2.51	1.20	0.53, 2.71	1.35	0.95, 1.91	1.38	0.97, 1.96	1.34	0.93, 1.92
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.92	0.43, 8.39	1.82	0.41, 8.00	1.76	0.21, 14.40	1.00	0.69, 1.44	0.97	0.66, 1.40	0.96	0.65, 1.39
High	2.24	0.54, 9.20	2.26	0.54, 9.33	2.61	0.35, 19.33	0.76	0.51, 1.10	0.77	0.52, 1.13	0.73	0.49, 1.08
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.36	0.59, 3.09	1.41	0.61, 3.22	1.52	0.52, 4.37	0.80	0.55, 1.15	0.83	0.57, 1.19	0.78	0.53, 1.13
High	0.93	0.43, 1.99	0.95	0.44, 2.05	0.73	0.26, 1.96	0.84	0.61, 1.161	0.87	0.62, 1.20	0.80	0.57, 1.12
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.21	0.63, 2.30	1.17	0.60, 2.24	1.02	0.42, 2.40	1.08	0.77, 1.51	1.07	0.75, 1.49	1.07	0.75, 1.51
High	1.33	0.73, 2.40	1.37	0.75, 2.47	1.10	0.49, 2.41	0.97	0.68, 1.36	0.94	0.66, 1.33	0.93	0.65, 1.33
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.93	1.06, 3.49	1.78	0.97, 3.26	1.30	0.53, 3.15	0.91	0.61, 1.34	0.92	0.62, 1.37	0.88	0.58, 1.33
High	1.47	0.82, 2.63	1.45	0.81, 2.60	1.45	0.68, 3.06	0.91	0.66, 1.25	0.86	0.61, 1.18	0.83	0.59, 1.16
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.58	0.82, 3.02	1.72	0.88, 3.33	1.79	0.69, 4.64	0.80	0.56, 1.13	0.78	0.55, 1.11	0.78	0.54, 1.11
High	1.73	0.91, 3.24	1.87	0.97, 3.55	2.58	1.07, 6.21	0.95	0.67, 1.31	0.95	0.67, 1.33	0.95	0.67, 1.34
Sugar-sweetened beverages												
Low	—	—	—	—	—	—	—	—	—	—	—	—

Medium	1.30	0.76, 2.20	1.37	0.80, 2.34	1.65	0.79, 3.44	0.82	0.59, 1.13	0.79	0.57, 1.10	0.86	0.61, 1.19
High	0.76	0.36, 1.55	0.77	0.37, 1.58	1.24	0.49, 3.10	0.86	0.60, 1.21	0.83	0.58, 1.17	0.86	0.59, 1.24

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

CI, confidence interval; HR, hazard ratio; IBD, inflammatory bowel disease.

Supplemental Table 16. Cohort-specific hazard ratios for Crohn's disease by diet quality and food intake frequency at 3 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.30	0.41, 4.02	1.32	0.42, 4.11	0.83	0.23, 2.98	1.09	0.67, 1.75	1.16	0.70, 1.88	1.16	0.70, 1.89
High	1.08	0.37, 3.11	1.09	0.37, 3.14	0.48	0.13, 1.73	1.08	0.64, 1.79	1.11	0.65, 1.87	1.03	0.59, 1.75
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.67	0.14, 3.02	0.66	0.14, 3.00	1.00	0.20, 4.91	1.10	0.65, 1.85	1.10	0.65, 1.85	1.20	0.70, 2.03
High	0.84	0.32, 2.15	0.81	0.31, 2.09	0.89	0.27, 2.80	1.17	0.70, 1.96	1.07	0.63, 1.81	1.17	0.68, 2.00
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.69	0.55, 5.19	1.64	0.52, 5.04	2.73	0.59, 12.53	0.79	0.48, 1.31	0.82	0.49, 1.36	0.85	0.50, 1.42
High	2.30	0.51, 10.27	2.24	0.49, 10.06	1.27	0.11, 14.50	0.87	0.51, 1.46	0.85	0.49, 1.44	0.85	0.49, 1.47
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.65	0.20, 2.04	0.63	0.20, 2.00	0.73	0.19, 2.73	1.60	0.94, 2.73	1.77	1.01, 3.06	1.71	0.98, 2.97
High	1.01	0.36, 2.79	0.99	0.35, 2.72	0.87	0.24, 3.06	1.52	0.89, 2.59	1.62	0.93, 2.81	1.58	0.90, 2.75
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.02	0.11, 9.10	1.03	0.11, 9.21	0.68	0.06, 6.66	1.01	0.57, 1.78	0.93	0.52, 1.65	0.87	0.48, 1.56
High	1.39	0.18, 10.53	1.40	0.18, 10.63	0.86	0.10, 6.88	0.94	0.53, 1.64	0.94	0.53, 1.66	0.94	0.53, 1.66
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.42	0.27, 7.33	1.47	0.28, 7.59	0.93	0.15, 5.76	0.77	0.44, 1.34	0.81	0.46, 1.40	0.77	0.43, 1.36
High	1.27	0.28, 5.62	1.33	0.29, 5.93	0.84	0.17, 3.99	0.94	0.58, 1.51	0.95	0.57, 1.54	0.93	0.56, 1.51
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.65	0.19, 2.23	0.66	0.19, 2.26	0.88	0.19, 3.99	1.36	0.84, 2.17	1.31	0.81, 2.10	1.25	0.77, 2.01
High	1.10	0.40, 2.94	1.10	0.40, 2.96	1.40	0.39, 4.91	0.68	0.38, 1.18	0.61	0.34, 1.08	0.61	0.34, 1.08
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.75	0.21, 2.65	0.77	0.21, 2.75	0.37	0.04, 3.03	0.87	0.47, 1.59	0.90	0.49, 1.66	0.90	0.48, 1.66
High	0.90	0.31, 2.56	0.89	0.31, 2.52	1.25	0.40, 3.90	1.04	0.64, 1.66	1.03	0.63, 1.67	0.98	0.59, 1.59
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.24	0.37, 4.04	1.23	0.37, 4.03	5.52	0.64, 47.53	0.62	0.36, 1.04	0.58	0.33, 1.00	0.60	0.34, 1.03
High	1.72	0.57, 5.14	1.73	0.57, 5.16	7.93	0.98, 63.86	0.92	0.56, 1.47	0.94	0.58, 1.52	0.93	0.57, 1.51
Sugar-sweetened beverages												
Low	—	—	—	—	—	—	—	—	—	—	—	—

Medium	1.26	0.45, 3.48	1.27	0.45, 3.49	1.63	0.46, 5.68	0.85	0.53, 1.35	0.85	0.53, 1.36	0.88	0.54, 1.40
High	1.38	0.44, 4.20	1.36	0.44, 4.20	2.08	0.54, 7.95	0.66	0.38, 1.14	0.65	0.37, 1.13	0.63	0.35, 1.11

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

CD, Crohn's disease; CI, confidence interval; HR, hazard ratio.

Supplemental Table 17. Cohort-specific hazard ratios for Ulcerative colitis by diet quality and food intake frequency at 3 year of age

	ABIS						MoBa					
	Unadjusted model		Adjusted HR ^a		Adjusted HR ^b		Unadjusted model		Adjusted HR ^a		Adjusted HR ^b	
	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality^c												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.30	0.54, 3.12	1.36	0.56, 3.27	2.21	0.61, 8.01	1.32	0.69, 2.51	1.35	0.69, 2.62	1.44	0.73, 2.83
High	1.14	0.50, 2.55	1.08	0.47, 2.48	0.96	0.25, 3.64	1.35	0.68, 2.66	1.48	0.74, 2.95	1.38	0.66, 2.86
Meat												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.15	0.42, 3.15	1.21	0.43, 3.34	0.44	0.05, 3.69	0.55	0.28, 1.08	0.55	0.28, 1.08	0.57	0.28, 1.11
High	1.07	0.51, 2.21	1.13	0.53, 2.37	1.22	0.42, 3.51	0.69	0.36, 1.30	0.61	0.31, 1.18	0.53	0.26, 1.07
Fish												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	0.87	0.42, 1.77	0.88	0.42, 1.82	0.66	0.21, 1.99	0.54	0.29, 1.00	0.60	0.31, 1.12	0.63	0.32, 1.20
High	0.51	0.11, 2.29	0.49	0.10, 2.18	1.02	0.20, 5.19	0.41	0.20, 0.85	0.46	0.21, 0.95	0.50	0.23, 1.05
Dairy												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.36	0.55, 3.33	1.60	0.62, 4.06	1.55	0.366, 6.57	1.40	0.68, 2.84	1.24	0.59, 2.58	1.26	0.58, 2.69
High	1.56	0.65, 3.70	1.82	0.73, 4.51	1.89	0.48, 7.36	1.54	0.77, 3.07	1.55	0.77, 3.10	1.60	0.77, 3.27
Fruits												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2.31	0.29, 18.22	2.09	0.26, 16.71	-	-	0.87	0.44, 1.73	0.84	0.41, 1.69	0.85	0.42, 1.70
High	2.24	0.30, 16.56	2.29	0.30, 16.98	-	-	0.60	0.29, 1.23	0.58	0.27, 1.22	0.46	0.21, 1.01
Vegetables												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.14	0.39, 3.33	1.22	0.41, 3.59	1.15	0.28, 4.69	0.70	0.34, 1.42	0.74	0.35, 1.50	0.73	0.35, 1.49
High	0.74	0.27, 1.99	0.78	0.28, 2.13	0.37	0.08, 1.49	0.73	0.38, 1.36	0.73	0.38, 1.40	0.61	0.30, 1.20
Grains												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	4.97	1.41, 17.44	4.81	1.35, 17.07	3.37	0.67, 16.87	0.93	0.48, 1.77	0.89	0.46, 1.71	0.93	0.47, 1.80
High	5.14	1.51, 17.46	5.53	1.62, 18.86	3.08	0.63, 15.07	0.76	0.38, 1.48	0.71	0.35, 1.42	0.63	0.30, 1.30
Potatoes												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2.75	1.21, 6.23	2.34	1.00, 5.44	2.09	0.58, 7.49	0.62	0.29, 1.30	0.61	0.28, 1.28	0.61	0.27, 1.33
High	1.99	0.87, 4.50	1.94	0.85, 4.40	1.67	0.49, 5.60	0.50	0.27, 0.91	0.43	0.22, 0.80	0.45	0.23, 0.85
Sugar-and fat-dense food												
Low	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1.67	0.69, 4.03	1.97	0.78, 4.94	1.37	0.36, 5.14	0.94	0.49, 1.77	0.99	0.51, 1.88	0.94	0.47, 1.84
High	1.55	0.64, 3.74	1.80	0.71, 4.50	1.45	0.40, 5.20	0.64	0.31, 1.29	0.63	0.30, 1.28	0.65	0.30, 1.34
Sugar-sweetened beverages												
Low	—	—	—	—	—	—	—	—	—	—	—	—

Medium	1.11	0.53, 2.27	1.22	0.58, 2.54	1.70	0.56, 5.11	0.65	0.34, 1.23	0.61	0.31, 1.17	0.64	0.32, 1.27
High	0.52	0.17, 1.53	0.52	0.172 1.55	0.78	0.15, 3.97	0.75	0.38, 1.46	0.70	0.35, 1.38	0.76	0.37, 1.53

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age. Some analyses in ABIS did not converge due to few events.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

CI, confidence interval; HR, hazard ratio; UC, ulcerative colitis.

Supplemental Table 18. Pooled hazard ratios for childhood-onset IBD (<18 years) by food intake frequency and diet quality at 1 and 3 years of age

	1 year			3 years		
	Unadjusted HR (95% CI)	Adjusted HR ^a (95% CI)	Adjusted HR ^b (95% CI)	Unadjusted HR (95% CI)	Adjusted HR ^a (95% CI)	Adjusted HR ^b (95% CI)
Diet quality^c						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.71 (0.53, 0.94)	0.72 (0.54, 0.96)	0.69 (0.51, 0.93)	1.03 (0.62, 1.73)	1.11 (0.62, 1.96)	0.92 (0.66, 1.28)
High	0.71 (0.53, 0.96)	0.74 (0.54, 1.00)	0.73 (0.53, 1.00)	0.95 (0.57, 1.60)	1.02 (0.57, 1.82)	0.90 (0.63, 1.28)
Meat						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.72 (0.53, 0.98)	0.75 (0.55, 1.02)	0.73 (0.53, 1.01)	0.99 (0.71, 1.39)	0.98 (0.70, 1.36)	0.99 (0.70, 1.41)
High	0.89 (0.66, 1.21)	0.96 (0.70, 1.31)	0.96 (0.69, 1.32)	0.97 (0.70, 1.34)	0.90 (0.65, 1.25)	0.94 (0.67, 1.34)
Fish						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.79 (0.59, 1.06)	0.83 (0.61, 1.13)	0.76 (0.55, 1.06)	1.35 (0.40, 4.51)	1.43 (0.43, 4.74)	1.46 (0.39, 5.41)
High	0.68 (0.47, 0.96)	0.72 (0.50, 1.04)	0.72 (0.50, 1.05)	1.10 (0.31, 3.93)	1.11 (0.31, 3.96)	1.14 (0.29, 4.53)
Dairy						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.90 (0.87, 1.55)	0.96 (0.70, 1.32)	1.22 (0.60, 2.47)	2.20 (0.50, 9.65)	2.23 (0.51, 9.70)	2.02 (0.45, 9.10)
High	1.16 (0.87, 1.55)	1.21 (0.90, 1.62)	1.32 (0.65, 2.66)	2.65 (0.61, 11.54)	2.70 (0.63, 11.63)	2.43 (0.54, 10.83)
Fruits						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.82 (0.63, 1.08)	0.85 (0.65, 1.12)	1.26 (0.32, 5.05)	1.01 (0.70, 1.46)	0.98 (0.67, 1.42)	0.95 (0.65, 1.39)
High	0.75 (0.46, 1.22)	0.74 (0.44, 1.23)	1.02 (0.25, 4.26)	0.76 (0.52, 1.12)	0.78 (0.53, 1.15)	0.73 (0.49, 1.08)
Vegetables						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.62 (0.45, 0.86)	0.65 (0.47, 1.02)	0.96 (0.27, 3.43)	0.95 (0.56, 1.61)	0.98 (0.57, 1.70)	0.83 (0.57, 1.21)
High	0.70 (0.52, 0.93)	0.76 (0.56, 1.02)	1.03 (0.29, 3.64)	0.84 (0.51, 1.40)	0.88 (0.52, 1.50)	0.78 (0.56, 1.10)
Grains						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.69 (0.51, 0.94)	0.71 (0.52, 0.97)	0.68 (0.50, 0.94)	1.08 (0.78, 1.49)	1.07 (0.75, 1.52)	1.11 (0.56, 2.18)
High	0.80 (0.61, 1.06)	0.84 (0.63, 1.11)	0.82 (0.61, 1.10)	0.99 (0.72, 1.38)	0.97 (0.68, 1.39)	1.11 (0.57, 2.18)
Potatoes						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.25 (0.83, 1.89)	1.27 (0.82, 1.98)	1.33 (0.83, 2.13)	1.51 (0.54, 4.20)	1.46 (0.54, 3.93)	1.03 (0.49, 2.17)
High	0.85 (0.58, 1.26)	0.93 (0.62, 1.39)	0.96 (0.62, 1.51)	1.31 (0.47, 3.61)	1.24 (0.47, 3.32)	1.08 (0.53, 2.19)
Sugar-and fat-dense food						

Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.27 (0.94, 1.73)	1.27 (0.93, 1.73)	1.21 (0.88, 1.68)	1.36 (0.40, 4.68)	1.36 (0.39, 4.75)	1.29 (0.29, 5.78)
High	1.05 (0.76, 1.45)	1.05 (0.75, 1.46)	1.03 (0.73, 1.46)	1.66 (0.49, 5.65)	1.68 (0.49, 5.84)	1.91 (0.44, 8.34)
Sugar-sweetened beverages						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.52 (0.82, 2.81) ^d	1.42 (0.94, 2.15) ^d	1.24 (0.89, 1.75) ^d	1.06 (0.53, 2.21)	1.05 (0.52, 2.10)	0.98 (0.50, 1.89)
High				1.09 (0.54, 2.21)	1.03 (0.50, 2.10)	1.09 (0.56, 2.14)

^aModel 1 was adjusted for the child's sex, parental inflammatory bowel disease, origin, education level and maternal comorbidities (type 1 diabetes, autoimmune thyroid disease, rheumatoid arthritis).

^bModel 2 was also adjusted for full breastfeeding, delivery mode, maternal smoking, maternal age, birth weight and gestational age.

^cDiet quality was measured using the Healthy Eating Index, including subgroups of fruits and vegetables, dairy foods, red meat and meat products, fish and eggs, soft drinks, salty snacks and sweet snacks.

^dThe intake of sugar-sweetened beverages for 1 year was only available to analyse as "no intake" and "some intakes" (≥ 0.5 portion/week).
CI, confidence interval; HR, hazard ratio; IBD, inflammatory bowel disease.

Supplemental Table 19. Sensitivity analyses excluding children with incomplete dietary data in analyses of Inflammatory bowel disease for exposures captured at 1 year of age^a

Diet exposure	Unadjusted model				Adjusted model 1		Adjusted model 2	
	N	Event N	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality								
Low	27,907	137	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	29,488	95	0.75	0.58, 0.98	0.76	0.58, 1.00	0.78	0.59, 1.03
High	23,876	74	0.75	0.57, 1.01	0.77	0.58, 1.04	0.75	0.55, 1.03
Per increase in score			0.83	0.74, 0.99	0.87	0.75, 1.01	0.86	0.74, 1.01
Meat								
Low	19,663	91	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	33,074	108	0.76	0.57, 1.00	0.77	0.58, 1.03	0.74	0.54, 1.00
High	27,930	104	0.89	0.67, 1.19	0.94	0.70, 1.26	0.93	0.68, 1.26
Per increase in category			0.96	0.82, 1.11	0.98	0.84, 1.15	0.98	0.83, 1.15
Fish								
Low	17,527	96	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	37,382	135	0.78	0.59, 1.02	0.81	0.61, 1.07	0.73	0.54, 0.99
High	25,434	71	0.65	0.46, 0.92	0.70	0.49, 1.00	0.69	0.48, 1.00
Per increase in category			0.82	0.69, 0.97	0.84	0.71, 1.00	0.74	0.49, 1.11
Dairy								
Low	25,279	94	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	26,402	90	0.87	0.65, 1.17	0.92	0.69, 1.24	0.99	0.73, 1.35
High	28,576	122	1.08	0.82, 1.41	1.11	0.84, 1.46	1.15	0.86, 1.55
Per increase in category			1.04	0.91, 1.20	1.06	0.92, 1.22	1.08	0.93, 1.25
Fruits								
Low	22,169	90	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium ^b	2,191	14	—	—	—	—	—	—
High	13,903	73	0.88	0.47, 1.64	0.92	0.42, 1.99	1.49	0.20, 10.95
Per increase in category			0.96	0.70, 1.32	0.97	0.66, 1.43	1.01	0.62, 1.63
Vegetables								
Low	18,629	83	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	25,543	81	0.66	0.48, 0.91	0.68	0.49, 0.93	0.87	0.36, 2.08
High	36,467	137	0.74	0.55, 0.99	0.78	0.58, 1.05	0.89	0.37, 2.11

Per increase in category			0.86	0.74, 1.00	0.89	0.76, 1.03	0.87	0.75, 1.02
Grains								
Low	26,684	116	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	25,943	80	0.79	0.54, 1.17	0.80	0.56, 1.15	0.72	0.53, 0.97
High	28,642	111	0.91	0.63, 1.32	0.94	0.67, 1.32	0.92	0.69, 1.21
Per increase in category			0.94	0.82, 1.08	0.97	0.84, 1.11	0.96	0.83, 1.11
Potatoes								
Low	12,539	62	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	36,990	132	1.24	0.81, 1.89	1.23	0.79, 1.92	1.33	0.82, 2.14
High	30,889	106	0.83	0.58, 1.19	0.86	0.60, 1.24	0.91	0.61, 1.37
Per increase in category			0.89	0.76, 1.04	0.90	0.77, 1.06	0.92	0.77, 1.09
Sugar-and fat-dense food								
Low	23,691	82	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	30,044	119	1.21	0.91, 1.61	1.21	0.91, 1.62	1.38	0.79, 2.41
High	26,693	100	1.07	0.80, 1.44	1.07	0.79, 1.45	1.19	0.67, 2.10
Per increase in category			1.04	0.90, 1.20	1.04	0.90, 1.20	1.08	0.87, 1.33
Sugar-sweetened beverages								
No intake	19,824	75	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Some intake	58,730	219	1.45	0.91, 2.33	1.40	1.03, 1.90	1.32	0.95, 1.82

^aBased on same tertiles as main analyses, see cut-offs in Supplemental Table 3.

^bAnalysis could not converge because of too no events in medium group in MoBa.

CI, confidence interval; HR, hazard ratio.

Supplemental Table 20. Sensitivity analyses excluding children with incomplete dietary data in analyses of Inflammatory bowel disease for exposures captured at 3 years of age^a

Diet exposure	Unadjusted model				Adjusted model 1		Adjusted model 2	
	N	Event N	HR	95% CI	HR	95% CI	HR	95% CI
Diet quality								
Low	26,170	113	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	20,308	73	0.89	0.66, 1.19	0.91	0.67, 1.22	0.91	0.66, 1.24
High	19,502	80	0.99	0.74, 1.32	1.02	0.76, 1.37	0.89	0.64, 1.24
Per increase in score			0.93	0.79, 1.09	0.95	0.81, 1.12	0.91	0.77, 1.09
Meat								
Low	21,344	93	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	21,590	78	0.95	0.69, 1.30	0.94	0.69, 1.29	0.94	0.67, 1.32
High	22,718	94	0.97	0.73, 1.29	0.93	0.69, 1.24	0.91	0.66, 1.26
Per increase in category			0.97	0.83, 1.13	0.94	0.81, 1.09	0.95	0.80, 1.11
Fish								
Low	16,356	83	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	29,155	119	0.81	0.61, 1.08	0.84	0.63, 1.12	0.87	0.63, 1.19
High	20,100	64	0.76	0.55, 1.06	0.78	0.56, 1.09	0.77	0.54, 1.10
Per increase in category			0.90	0.70, 1.15	0.91	0.72, 1.16	0.88	0.74, 1.06
Dairy								
Low	20,481	66	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	21,695	89	1.26	0.92, 1.73	1.28	0.93, 1.77	1.26	0.90, 1.78
High	22,787	104	1.40	1.03, 1.91	1.43	1.04, 1.95	1.34	0.96, 1.88
Per increase in category			1.17	1.00, 1.37	1.18	1.01, 1.38	1.16	0.99, 1.37
Fruits								
Low	10,548	40	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium ^b	23,779	100	1.14	0.72, 1.80	1.09	0.71, 1.67	1.06	0.72, 1.56
High	31,096	121	0.90	0.57, 1.44	0.91	0.59, 1.40	0.84	0.56, 1.25
Per increase in category			1.00	0.69, 1.45	1.02	0.70, 1.46	1.00	0.66, 1.53
Vegetables								
Low	16,568	70	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	17,914	71	0.88	0.63, 1.24	0.91	0.65, 1.29	0.92	0.54, 1.58
High	30,982	121	0.88	0.65, 1.19	0.90	0.66, 1.23	0.84	0.50, 1.41
Per increase in category			0.92	0.79, 1.07	0.93	0.80, 1.09	0.88	0.75, 1.04
Grains								
Low	21,459	80	—	—	—	—	—	—
Medium	21,532	90	1.11	0.82, 1.50	1.08	0.80, 1.47	1.06	0.76, 1.47
High	22,494	93	1.04	0.77, 1.41	1.02	0.75, 1.39	0.96	0.69, 1.33

Per increase in category			1.00	0.86, 1.16	0.99	0.85, 1.15	0.97	0.82, 1.14
Potatoes								
Low	21,521	87	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	14,087	59	1.25	0.69, 2.26	1.21	0.69, 2.10	0.95	0.64, 1.40
High	29,490	117	1.10	0.62, 1.96	1.05	0.62, 1.80	0.92	0.67, 1.28
Per increase in category			1.10	0.80, 1.50	1.08	0.76, 1.52	1.01	0.77, 1.33
Sugar-and fat-dense food								
Low	20,153	74	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	23,174	85	1.20	0.53, 2.71	1.26	0.50, 3.17	1.25	0.41, 3.85
High	22,230	100	1.38	0.62, 3.09	1.46	0.58, 3.65	1.65	0.54, 5.02
Per increase in category			1.13	0.82, 1.55	1.13	0.83, 1.54	1.22	0.76, 1.95
Sugar-sweetened beverages								
Low	24,046	103	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	24,656	96	0.95	0.72, 1.25	0.97	0.69, 1.37	1.04	0.69, 1.57
High	16,996	64	0.85	0.62, 1.17	0.83	0.56, 1.22	0.95	0.61, 1.49
Per increase in category			0.95	0.81, 1.11	0.93	0.79, 1.10	0.96	0.81, 1.14

^aBased on same tertiles as main analyses, see cut-offs in Supplemental Table 3.

CI, confidence interval; HR, hazard ratio.

Supplemental Table 21. Subanalysis excluding children with IBD diagnosis <6 years (n=28) in the analyses for diet quality at 1 year of age and later risk of Inflammatory bowel disease.

	Model 1 ^a		
	ABIS aHR (95% CI)	MoBa aHR (95% CI)	Pooled analysis aHR (95% CI)
Diet quality			
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.97 (0.58, 1.62)	0.67 (0.48, 0.93)	0.76 (0.54, 1.08)
High	0.63 (0.34, 1.17)	0.79 (0.56, 1.11)	0.75 (0.56, 1.01)

^aAdjusted for the child's sex, parental IBD, origin, education level, and maternal comorbidities.
CI, confidence interval; HR, hazard ratio.

Supplemental Table 22. Sensitivity analyses adjusting for formula intake as an additional covariate in the analyses of model 1 for diet quality at 1 year of age and later risk of Inflammatory bowel disease.

	Model 1 ^a		
	ABIS aHR (95% CI)	MoBa aHR (95% CI)	Pooled analysis aHR (95% CI)
Diet quality			
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.95 (0.57, 1.58)	0.69 (0.51, 0.95)	0.76 (0.57, 1.00)
High	0.61 (0.33, 1.14)	0.80 (0.57, 1.10)	0.75 (0.56, 1.00)

^aAdjusted for the child's sex, parental IBD, origin, education level, maternal comorbidities, and child's intake of formula at 1 year of age (yes/no). Formula intake was defined as any intake of formula at 1 year of age.

CI, confidence interval; HR, hazard ratio.

Supplemental Table 23. Sensitivity analyses adjusting for household income as an additional covariate in the analyses of model 1 for diet quality at 1 year of age and later risk of Inflammatory bowel disease.

	Model 1 ^a		
	ABIS aHR (95% CI)	MoBa aHR (95% CI)	Pooled analyses aHR (95% CI)
Diet quality			
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.95 (0.57, 1.58)	0.70 (0.51, 0.96)	0.76 (0.58, 1.00)
High	0.61 (0.33, 1.14)	0.78 (0.55, 1.09)	0.73 (0.55, 0.99)

^aAdjusted for the child's sex, parental IBD, origin, education level, maternal comorbidities, and child's intake of formula at 1 year of age (yes/no). Household income was defined by annual gross income, further description is presented elsewhere.[17]

CI, confidence interval; HR, hazard ratio.

Supplemental Table 24. Sensitivity analyses adjusting for antibiotic exposure from birth to 1 year of age as an additional covariate in the analyses of model 1 for diet quality at 1 year of age and later risk of Inflammatory bowel disease.

	Model 1 ^a		
	ABIS aHR (95% CI)	MoBa aHR (95% CI)	Pooled analyses Pooled aHR (95% CI)
Diet quality			
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.99 (0.59, 1.66)	0.69 (0.51, 0.95)	0.78 (0.56, 1.08)
High	0.64 (0.34, 1.20)	0.80 (0.57, 1.11)	0.76 (0.57, 1.02)

^aAdjusted for the child's sex, parental IBD, origin, education level, maternal comorbidities, and child's exposure to antibiotics from birth to 1 year of age (yes/no).

CI, confidence interval; HR, hazard ratio.

Supplemental Table 25. Sensitivity analyses exploring interaction effect for diet quality at 1 year of age and breastfeeding, parental IBD, child's sex, maternal education and child's exposure to antibiotics at 1 year of age.

Covariate	Diet quality * covariate interaction	
	ABIS	MoBa
Breastfeeding	p = 0.73	p = 0.54
Parental IBD	p = 0.57	p = 0.97
Child's sex	p = 0.34	p = 0.10
Maternal education	p = 0.42	p = 0.31
Child's exposure to antibiotics 1y	p = 0.58	p = 0.05

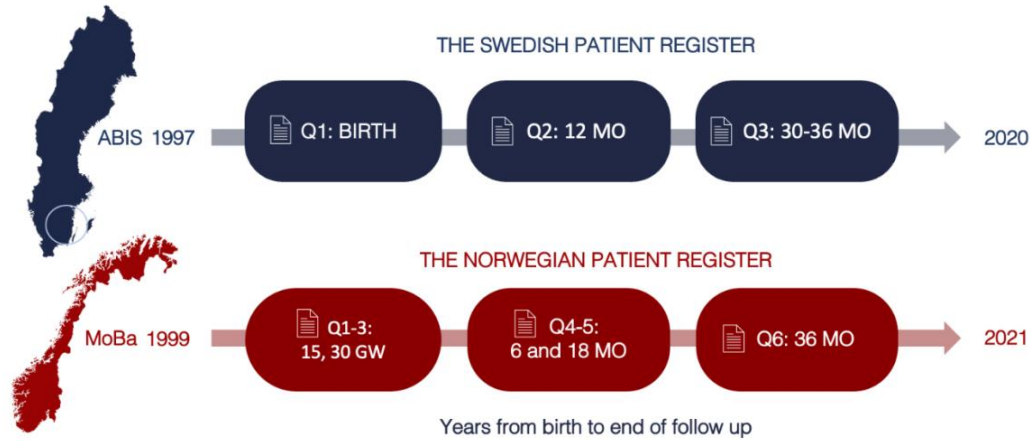
Statistical analyses were performed using Cox regression with diet quality at one year of age, covariate, and diet with covariate interaction as explanatory variables. The regression coefficient is the log hazard ratio of the corresponding model effect. IBD, inflammatory bowel disease

Supplemental Table 26. Sensitivity analyses for Crohn's disease and Ulcerative colitis by diet quality and food intake frequency at 1 year of age using subtypes defined based on the last 2 years of follow-up.^a

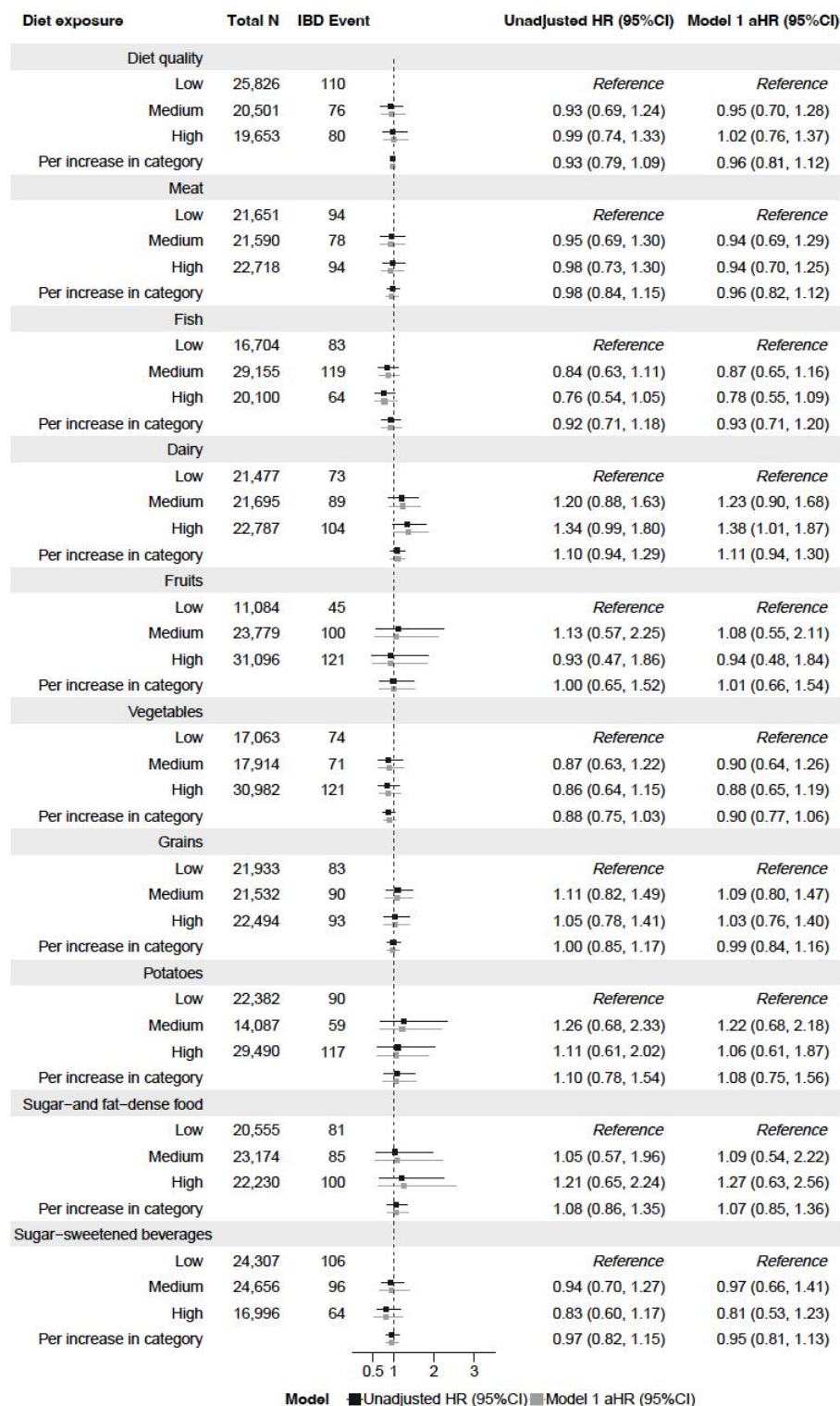
	Unadjusted model			Model 1 ^a		
	ABIS HR (95% CI)	MoBa HR (95% CI)	Pooled analyses HR (95% CI)	ABIS aHR (95% CI)	MoBa aHR (95% CI)	Pooled analyses aHR (95% CI)
Crohn's Disease						
Diet quality						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	0.62 (0.28-1.38)	0.78 (0.50, 1.23)	0.73 (0.46, 1.15)	0.68 (0.30, 1.51)	0.79 (0.50, 1.26)	0.77 (0.50, 1.18)
High	0.39 (0.15, 1.05)	0.85 (0.53, 1.37)	0.74 (0.48, 1.13)	0.45 (0.17, 1.22)	0.87 (0.53, 1.41)	0.76 (0.51, 1.14)
Ulcerative colitis						
Low	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
Medium	1.41 (0.68, 2.91)	0.78 (0.45, 1.34)	0.74 (0.45, 1.21)	1.49 (0.72, 3.10)	0.78 (0.44, 1.35)	0.77 (0.46, 1.30)
High	0.85 (0.35, 2.01)	0.69 (0.38, 1.26)	0.96 (0.62, 1.48)	0.89 (0.37, 2.14)	0.72 (0.39, 1.33)	0.99 (0.63, 1.56)

^aCompared to the main analyses, the definition of IBD-U was changed from having a mix of codes the last 5-6 years to having a mix of codes the last 2 years of follow-up. The number of IBD-U events decreased from 67 to 54 in MoBa (23%) and 12 to 6 in ABIS (8%).

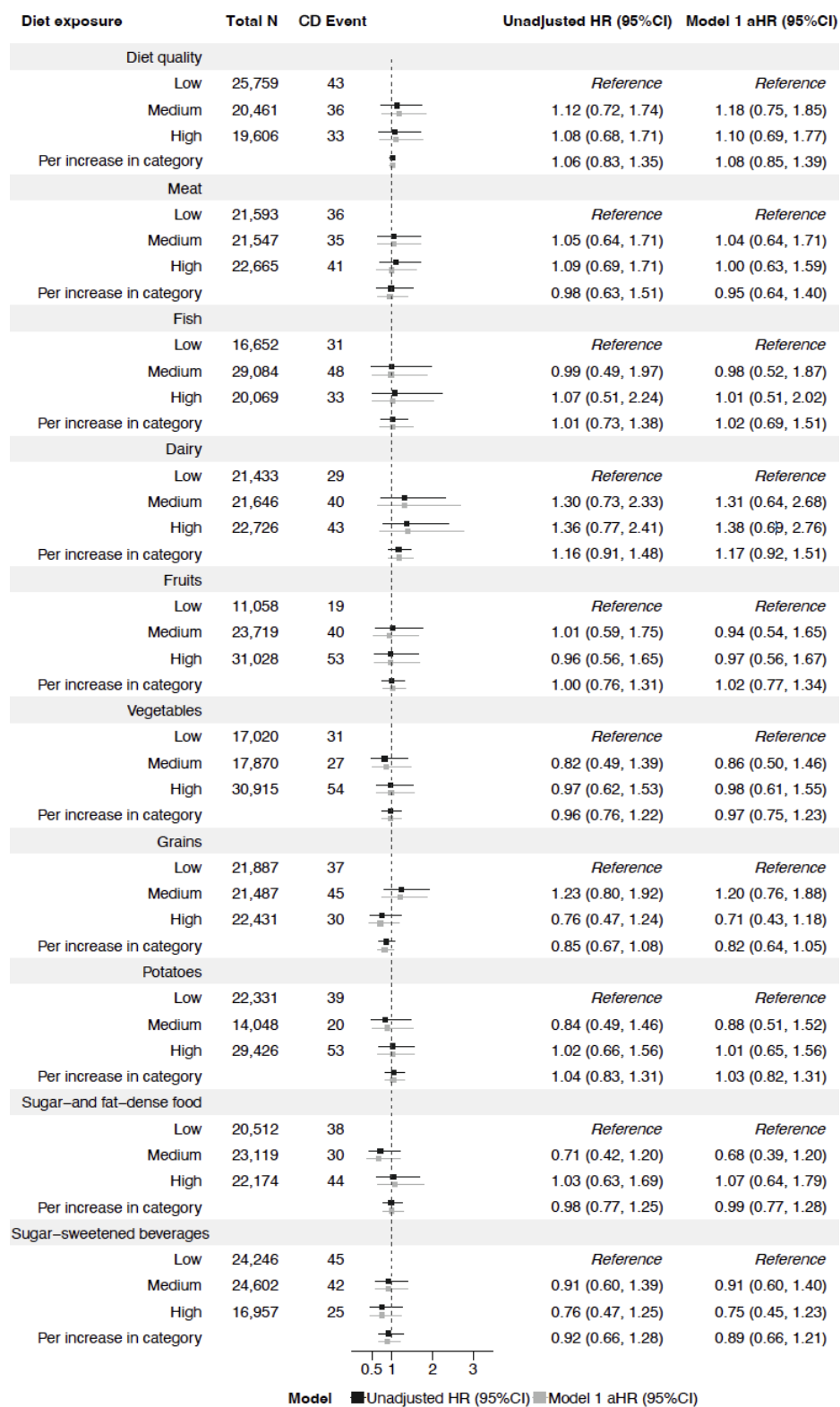
1 **FIGURES**
2



3
4 **Supplemental Figure 1.** Questionnaires used in ABIS and MoBa. Children were born
5 between 1997 and 1999 (ABIS) and 1999 and 2008 (MoBa). ABIS, All Babies in Southeast
6 Sweden; GW, gestational week; MoBa, The Norwegian Mother, Father and Child Cohort;
7 MO, month.

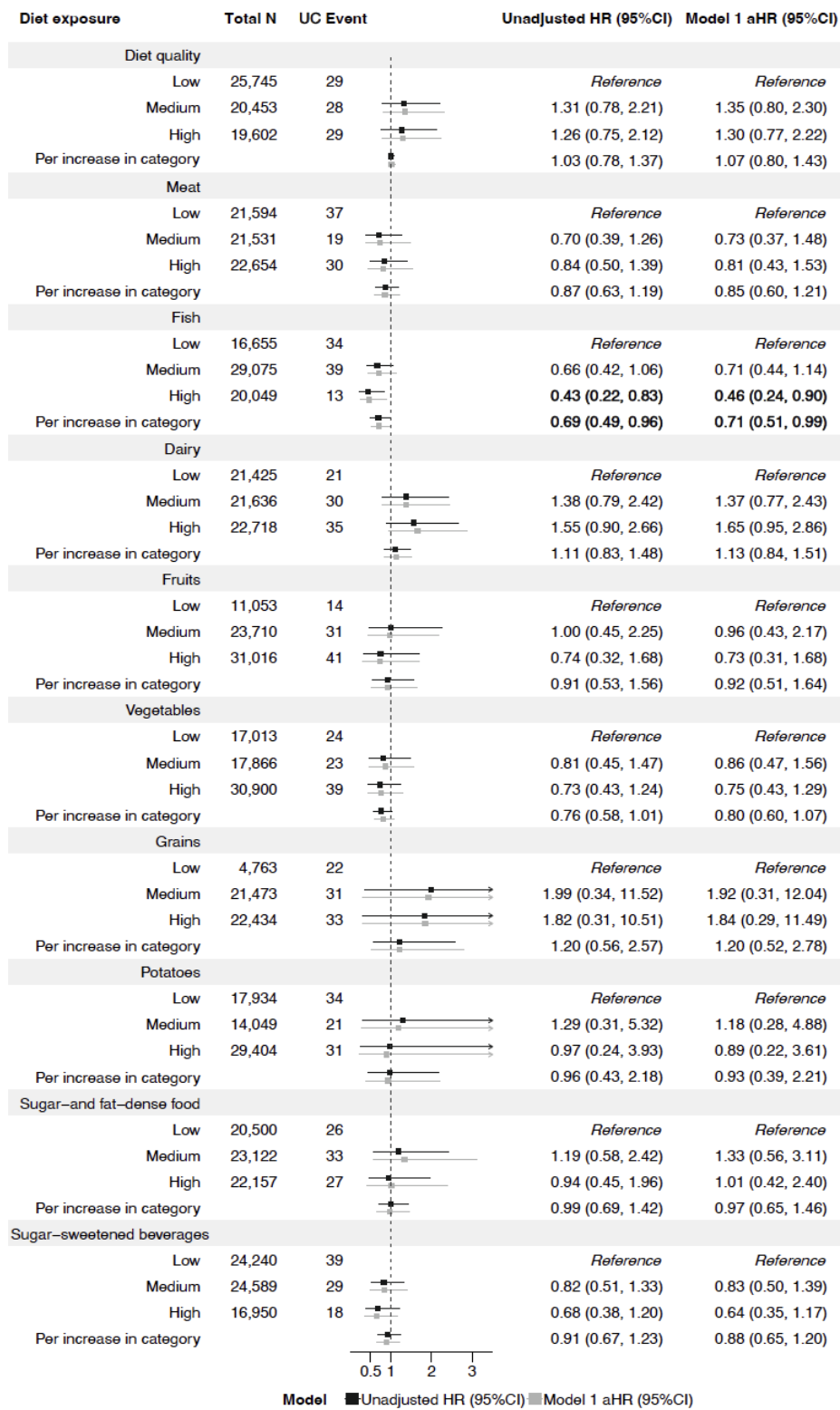


Supplemental Figure 2. Pooled hazard ratios (HRs) of diet quality and food intake frequency at 3 years of age and risk of Inflammatory bowel disease (IBD). Adjusted HRs (aHRs) were adjusted for the child's sex, parental IBD, origin, education level and maternal comorbidities. CI, confidence interval.



Supplemental Figure 3. Pooled hazard ratios (HRs) of diet quality and food intake frequency at 3 years of age and risk of Crohn's disease. Adjusted HRs (aHRs) were adjusted for the

child's sex, parental IBD, origin, education level and maternal comorbidities. CI, confidence interval.



Supplemental Figure 4. Pooled hazard ratios (HRs) of diet quality and food intake frequency at 3 years of age and risk of Ulcerative colitis. Adjusted HRs (aHRs) were adjusted for the

child's sex, parental IBD, origin, education level and maternal comorbidities. CI, confidence interval.

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