Online Supplementary Material

Maternal first trimester cow's milk intake is positively associated with childhood general- and abdominal visceral fat mass and lean mass but not with other cardio-metabolic risk factors at the age of 10 years

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Supplemental Figure 1. Flow-chart of the participants



Supplemental Methods 1. Log-log regression analyses

As the amount of fat and lean mass is highly dependent on the current height of the child, we created measures of fat and lean mass that are independent of height using log-log regression analyses. We log-transformed total fat mass, abdominal visceral fat mass, pericardial fat mass, lean mass and height, using natural logs. We subsequently regressed the log-adiposity measures on log-height. The regression slope corresponds to the power by which height should be raised in order to calculate an index of the a measure that is uncorrelated with height. Thus, we divided total fat mass by height⁴, abdominal visceral fat mass by height³, pericardial fat mass by height³ and lean mass by height².

References

 Wells JC, Cole TJ, ALSPAC study team. Adjustment of fat-free mass and fat mass for height in children aged 8 y. Int J Obes Relat Metab Disord 2002; 26: 947-952.

| | Follow-up at 10 years | Lost to follow-up at 10 | <i>P</i> -value |
|--|-----------------------|-------------------------|-----------------|
| | | years | |
| | <i>n</i> =2,466 | <i>n</i> = 973 | |
| Maternal characteristics | | | |
| Milk intake during pregnancy, glasses/d | 1.6 [0.0, 5.3] | 2.0 [0.0, 5.6] | 0.036 |
| Age, years | 31.9 [22.7, 39.7] | 31.0 [19.8, 38.7] | < 0.001 |
| Pre-pregnancy BMI, kg/m ² | 23.2 (3.8) | 23.3 (4.2) | 0.307 |
| Education, <i>n</i> (%) | | | < 0.001 |
| Primary | 38 (1.6) | 70 (7.3) | |
| Secondary | 842 (34.6) | 431 (44.9) | |
| Higher | 1556 (63.9) | 458 (47.8) | |
| Nulliparous, <i>n</i> (%) | 1540 (62.6) | 523 (54.0) | < 0.001 |
| Folic acid supplementation use, n (%) | 1850 (91.5) | 661 (83.2) | < 0.001 |
| Smoking during pregnancy, n (%) | 290 (12.7) | 244 (26.8) | < 0.001 |
| Total energy intake, kcal/d | 2127 [1227, 3174] | 2132 [1203, 3265] | 0.920 |
| Caffeine intake during pregnancy, units ² | 1.9 [0.0, 5.5] | 1.8 [0.0, 5.6] | 0.055 |
| Fruit intake, g/d | 190 [21, 473] | 182 [187, 469] | 0.005 |
| Vegetable intake, g/d | 149 [54, 304] | 143 [47, 304] | 0.004 |
| Meat intake, g/d | 83 [1, 166] | 86 [1, 173] | 0.066 |
| Fish intake, g/d | 12 [0, 45] | 10 [0, 48] | 0.001 |
| Daily vomiting, <i>n</i> (%) | 93 (4.1) | 52 (5.8) | 0.056 |
| Daily nausea, n (%) | 619 (27.5) | 261 (29.0) | 0.429 |
| Child characteristics | | | |
| Males, <i>n</i> (%) | 1225 (49.7) | 511 (52.5) | 0.143 |
| Gestational age at birth, weeks | 40.3 [36, 42.4] | 40.1 [35.3, 42.3] | 0.003 |
| Birth weight, g | 3530 [2335, 4500] | 3450 [2202, 4639] | 0.034 |
| Gestational age-adjusted birth weight, SD | 0.0 (1.0) | 0.0 (1.1) | 0.645 |
| Ever breastfeeding, n (%) | 1985 (91.9) | 578 (85.8) | <0.001 |

Supplemental Table 1. Non-response analysis

¹Values represent mean (SD), median [95% range] or number of participants (valid %) unless otherwise indicated. ²1 unit is equivalent to one cup of coffee (90 mg of caffeine).

Supplemental Table 2. Associations of maternal first trimester milk intake with childhood fat and lean mass at the age of 10 years ^{1,2,3}

| | Body mass index (SD) | | Fat mass index (SD) | | Lean mass index (SD) | | Android/gynoid fat mass ratio (SD) | | Abdominal visceral fat mass index (SD) | | Liver fat fraction (SD) | |
|--------------------------|----------------------|-----|---------------------|-----|----------------------|-----|---------------------------------------|-----|---|-----|-------------------------|-----|
| | <i>n</i> =2,461 | n | n=2,433 | n | <i>n</i> =2,443 | n | <i>n</i> =2,436 | n | n=1,238 | n | n=1,386 | n |
| Maternal milk | intake | | | | | | | | | | | |
| 0-0.9 glass | Reference | 662 | Reference | 651 | Reference | 651 | Reference | 652 | Reference | 339 | Reference | 380 |
| 1-1.9 glasses | 0.09 (-0.01, 0.19) | 637 | 0.06 (-0.04, 0.17) | 631 | 0.06 (-0.04, 0.16) | 631 | 0.07 (-0.04, 0.18) | 632 | -0.02 (-0.17, 0.13) | 330 | -0.02 (-0.16, 0.12) | 368 |
| 2-2.9 glasses | 0.11 (0.01, 0.21)* | 691 | 0.10 (0.00, 0.20) | 687 | 0.06 (-0.04, 0.16) | 687 | 0.07 (-0.04, 0.17) | 687 | 0.04 (-0.11, 0.19) | 336 | 0.08 (-0.06, 0.22) | 379 |
| 3-3.9 glasses | 0.08 (-0.05, 0.21) | 269 | 0.07 (-0.06, 0.21) | 265 | 0.05 (-0.09, 0.18) | 265 | 0.05 (-0.09, 0.19) | 266 | -0.09 (-0.28, 0.11) | 140 | -0.01 (-0.19, 0.18) | 152 |
| 4-4.9 glasses | 0.14 (-0.06, 0.34) | 94 | 0.26 (0.05, 0.46)* | 93 | -0.05 (-0.25, 0.15) | 93 | 0.11 (-0.11, 0.32) | 93 | -0.01 (-0.33, 0.32) | 40 | 0.30 (0.00, 0.60)* | 47 |
| ≥5 glasses | 0.25 (0.06, 0.44)** | 108 | 0.23 (0.03, 0.42)* | 106 | 0.26 (0.07, 0.46)** | 106 | 0.27 (0.07, 0.48)** | 106 | 0.30 (0.01, 0.59)* | 53 | 0.13 (-0.14, 0.40) | 60 |
| P for trend ⁴ | 0.007** | | 0.003** | | NA ⁵ | | 0.028* | | NA ⁵ | | NA ⁵ | |

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

²1 glass is equivalent to 150 mL milk.

³ The models are adjusted for child's sex and child's age at follow-up measurement.

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

| | | Per | icardial fat mass index (S | SD) | | |
|---------------------------------|---------------------|-----|----------------------------|-----|---------------------|-----|
| | Total group | | Boys | | Girls | |
| | <i>n</i> =1,269 | n | <i>n</i> =626 | n | <i>n</i> =643 | n |
| Maternal milk | intake | | | | | |
| 0-0.9 glass | Reference | 346 | Reference | 165 | Reference | 181 |
| 1-1.9 glasses | -0.01 (-0.16, 0.14) | 336 | -0.24 (-0.46, -0.02)* | 160 | 0.17 (-0.03, 0.38) | 176 |
| 2-2.9 glasses | 0.00 (-0.15, 0.14) | 356 | -0.11 (-0.32, 0.10) | 191 | 0.07 (-0.14, 0.28) | 165 |
| 3-3.9 glasses | -0.09 (-0.29, 0.10) | 140 | -0.39 (-0.67, -0.11)** | 70 | 0.17 (-0.10, 0.44) | 70 |
| 4-4.9 glasses | 0.01 (-0.33, 0.34) | 39 | -0.67 (-1.26, -0.08)* | 12 | 0.35 (-0.05, 0.75) | 27 |
| ≥5 glasses | 0.24 (-0.05, 0.53) | 52 | -0.08 (-0.48, 0.33) | 28 | 0.55 (0.13, 0.97)** | 24 |
| <i>P</i> for trend ⁴ | NA ⁵ | | NA^5 | | 0.014* | |

Supplemental Table 3. Associations of maternal first trimester milk intake with childhood fat pericardial fat at the age of 10 years ^{1,2,3}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

²1 glass is equivalent to 150 mL milk.

³The models are adjusted for child's sex and child's age at follow-up measurement.

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

Supplemental Table 4. Associations of maternal first trimester milk intake with childhood fat and lean mass at the age of 10 years ^{1,2,3}

| | Body mass index (SE |)) | Fat mass index (SD) | | Lean mass index (S | D) | Android/gynoid fat 1 ratio (SD) | nass | Abdominal visceral f mass index (SD) | îat | Liver fat fraction (| SD) |
|--------------------------|------------------------|----------|-------------------------|-----|---------------------|-----|------------------------------------|------|---|-----|----------------------|-----|
| | <i>n</i> =2,461 | n | <i>n</i> =2,433 | n | <i>n</i> =2,443 | n | <i>n</i> =2,436 | n | <i>n</i> =1,238 | n | <i>n</i> =1,386 | n |
| A. Conf | ounder model + gestat | ional ag | ge-adjusted birth weigh | ıt | | | | | | | | |
| 0-0.9 glass | Reference | 662 | Reference | 651 | Reference | 651 | Reference | 652 | Reference | 339 | Reference | 380 |
| 1-1.9 glasses | 0.09 (-0.01, 0.19) | 637 | 0.08 (-0.02, 0.19) | 631 | 0.03 (-0.07, 0.13) | 631 | 0.09 (-0.02, 0.2) | 632 | 0.00 (-0.15, 0.15) | 330 | 0.00 (-0.14, 0.14) | 368 |
| 2-2.9 glasses | 0.11 (0.01, 0.20)* | 691 | 0.12 (0.01, 0.22)* | 687 | 0.03 (-0.07, 0.13) | 687 | 0.08 (-0.03, 0.19) | 687 | 0.07 (-0.08, 0.22) | 336 | 0.10 (-0.04, 0.24) | 379 |
| 3-3.9 glasses | 0.09 (-0.04, 0.23) | 269 | 0.11 (-0.02, 0.25) | 265 | 0.00 (-0.13, 0.13) | 265 | 0.08 (-0.06, 0.23) | 266 | 0.00 (-0.20, 0.20) | 140 | 0.04 (-0.16, 0.23) | 152 |
| 4-4.9 glasses | 0.15 (-0.05, 0.35) | 94 | 0.28 (0.08, 0.49)** | 93 | -0.08 (-0.28, 0.12) | 93 | 0.12 (-0.10, 0.34) | 93 | 0.06 (-0.27, 0.39) | 40 | 0.34 (0.03, 0.64)* | 47 |
| ≥5 glasses | 0.26 (0.07, 0.45)** | 108 | 0.27 (0.07, 0.46)** | 106 | 0.22 (0.03, 0.41)* | 106 | 0.30 (0.09, 0.51)** | 106 | 0.38 (0.09, 0.67)** | 53 | 0.19 (-0.09, 0.46) | 60 |
| P for trend ⁴ | 0.006** | | 0.001** | | NA ⁵ | | 0.014* | | NA ⁵ | | NA ⁵ | |
| B. Conf | ounder model + breast | feeding | 5 | | | | | | | | | |
| 0-0.9 glass | Reference | 662 | Reference | 651 | Reference | 651 | Reference | 652 | Reference | 339 | Reference | 380 |
| 1-1.9 glasses | 0.11 (0.01, 0.21)* | 637 | 0.09 (-0.01, 0.19) | 631 | 0.06 (-0.04, 0.16) | 631 | 0.09 (-0.02, 0.20) | 632 | 0.00 (-0.15, 0.15) | 330 | -0.01 (-0.15, 0.13) | 368 |
| 2-2.9 glasses | 0.13 (0.03, 0.23)** | 691 | 0.12 (0.02, 0.22)* | 687 | 0.06 (-0.04, 0.16) | 687 | 0.08 (-0.03, 0.19) | 687 | 0.07 (-0.08, 0.22) | 336 | 0.09 (-0.05, 0.24) | 379 |
| 3-3.9 glasses | 0.12 (-0.01, 0.26) | 269 | 0.11 (-0.03, 0.25) | 265 | 0.05 (-0.09, 0.18) | 265 | 0.07 (-0.07, 0.22) | 266 | 0.00 (-0.20, 0.20) | 140 | 0.02 (-0.17, 0.22) | 152 |
| 4-4.9 glasses | 0.16 (-0.04, 0.37) | 94 | 0.28 (0.07, 0.48)** | 93 | -0.06 (-0.26, 0.15) | 93 | 0.11 (-0.11, 0.33) | 93 | 0.05 (-0.28, 0.38) | 40 | 0.32 (0.02, 0.63)* | 47 |
| ≥5 glasses | 0.29 (0.10, 0.49)** | 108 | 0.28 (0.08, 0.47)** | 106 | 0.26 (0.07, 0.46)** | 106 | 0.30 (0.09, 0.50)** | 106 | 0.38 (0.09, 0.68)** | 53 | 0.17 (-0.11, 0.44) | 60 |
| P for trend ⁴ | 0.001** | | <0.001** | | NA ⁵ | | 0.015* | | NA ⁵ | | NA ⁵ | |
| C. Conf | ounder model + child's | s milk i | ntake | | | | | | | | | |
| 0-0.9 glass | Reference | 662 | Reference | 651 | Reference | 651 | Reference | 652 | Reference | 339 | Reference | 380 |
| 1-1.9 glasses | 0.11 (0.01, 0.21)* | 637 | 0.09 (-0.02, 0.19) | 631 | 0.06 (-0.05, 0.16) | 631 | 0.09 (-0.02, 0.20) | 632 | 0.00 (-0.15, 0.15) | 330 | -0.01 (-0.15, 0.13) | 368 |
| 2-2.9 glasses | 0.12 (0.02, 0.23)* | 691 | 0.12 (0.02, 0.22)* | 687 | 0.05 (-0.05, 0.15) | 687 | 0.08 (-0.03, 0.19) | 687 | 0.07 (-0.08, 0.22) | 336 | 0.09 (-0.05, 0.24) | 379 |
| 3-3.9 glasses | 0.12 (-0.01, 0.26) | 269 | 0.12 (-0.02, 0.26) | 265 | 0.03 (-0.10, 0.17) | 265 | 0.08 (-0.06, 0.23) | 266 | 0.01 (-0.20, 0.21) | 140 | 0.03 (-0.16, 0.22) | 152 |
| 4-4.9 glasses | 0.16 (-0.04, 0.36) | 94 | 0.29 (0.08, 0.50)** | 93 | -0.08 (-0.29, 0.13) | 93 | 0.12 (-0.10, 0.34) | 93 | 0.06 (-0.26, 0.39) | 40 | 0.33 (0.03, 0.64)* | 47 |
| ≥5 glasses | 0.28 (0.09, 0.48)** | 108 | 0.28 (0.08, 0.47)** | 106 | 0.24 (0.05, 0.44)* | 106 | 0.30 (0.10, 0.51)** | 106 | 0.38 (0.09, 0.68)** | 53 | 0.17 (-0.10, 0.45) | 60 |
| P for trend ⁴ | 0.002** | | <0.001** | | NA ⁵ | | 0.012 | | NA ⁵ | | NA ⁵ | |

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day

²1 glass is equivalent to 150 mL milk.

³The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting, maternal total energy intake and either gestational age-adjusted birth weight (A), breastfeeding (B) or child's milk intake (C).

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

| | | Pericard | lial fat mass index (SD) | | | | | |
|--|------------------------|------------|--------------------------|-----|---------------------|---------------|--|--|
| | Total group | | Boys | | Girls | | | |
| | <i>n</i> =1,269 | | n=626 | | <i>n</i> =643 | <i>n</i> =643 | | |
| A. Confour | der model + gestationa | al age-ad | justed birth weight | | | | | |
| 0-0.9 glass | Reference | 346 | Reference | 165 | Reference | 181 | | |
| 1-1.9 glasses | -0.02 (-0.17, 0.14) | 336 | -0.24 (-0.46, -0.02)* | 160 | 0.17 (-0.04, 0.37) | 176 | | |
| 2-2.9 glasses | 0.00 (-0.15, 0.15) | 356 | -0.11 (-0.32, 0.10) | 191 | 0.08 (-0.13, 0.49) | 165 | | |
| 3-3.9 glasses | -0.07 (-0.27, 0.14) | 140 | -0.34 (-0.64, -0.05)* | 70 | 0.19 (-0.09, 0.47) | 70 | | |
| 4-4.9 glasses | 0.04 (-0.29, 0.38) | 39 | -0.67 (-1.26, -0.07)* | 12 | 0.40 (0.00, 0.78) | 27 | | |
| ≥5 glasses | 0.26 (-0.04, 0.56) | 52 | -0.07 (-0.48, 0.34) | 28 | 0.57 (0.15, 1.00)** | 24 | | |
| P for trend ⁴ | NA ⁵ | | NA ⁵ | | 0.010** | | | |
| | | | | | | | | |
| B. Confour | der model + breastfee | ding | | | | | | |
| 0-0.9 glass | Reference | 346 | Reference | 165 | Reference | 181 | | |
| 1-1.9 glasses | 0.01 (-0.14, 0.16) | 336 | -0.23 (-0.44, 0.00)* | 160 | 0.20 (-0.01, 0.40) | 176 | | |
| 2-2.9 glasses | 0.02 (-0.13, 0.17) | 356 | -0.10 (-0.31, 0.11) | 191 | 0.12 (-0.09, 0.33) | 165 | | |
| 3-3.9 glasses | -0.03 (-0.24, 0.17) | 140 | -0.33 (-0.62, -0.04)* | 70 | 0.24 (-0.03, 0.52) | 70 | | |
| 4-4.9 glasses | 0.04 (-0.3, 0.37) | 39 | -0.67 (-1.27, -0.08)* | 12 | 0.40 (0.00, 0.80) | 27 | | |
| ≥5 glasses | 0.30 (0.00, 0.60) | 52 | -0.05 (-0.47, 0.36) | 28 | 0.65 (0.22, 1.08)** | 24 | | |
| P for trend ⁴ | NA ⁵ | | NA ⁵ | | 0.003** | | | |
| | | | | | | | | |
| C. Confour | der model + child's mi | ilk intake | | | | | | |
| 0-0.9 glass | Reference | 346 | Reference | 165 | Reference | 181 | | |
| 1-1.9 glasses | 0.00 (-0.15, 0.15) | 336 | -0.23 (-0.45, 0.00)* | 160 | 0.19 (-0.01, 0.40) | 176 | | |
| 2-2.9 glasses | 0.02 (-0.13, 0.17) | 356 | -0.10 (-0.31, 0.11) | 191 | 0.11 (-0.10, 0.32) | 165 | | |
| 3-3.9 glasses | -0.04 (-0.24, 0.16) | 140 | -0.33 (-0.63, -0.04)* | 70 | 0.23 (-0.05, 0.50) | 70 | | |
| 4-4.9 glasses | 0.05 (-0.28, 0.39) | 39 | -0.66 (-1.25, -0.05)* | 12 | 0.40 (0.00, 0.81)* | 27 | | |
| \geq 5 glasses 0.29 (-0.01, 0.59) 52 | | 52 | -0.05 (-0.47, 0.36) | 28 | 0.63 (0.20, 1.06)** | 24 | | |
| P for trend ⁴ | NA ⁵ | | NA ⁵ | | 0.004** | | | |

Supplemental Table 5. Associations of maternal first trimester milk intake with childhood pericardial fat at the age of 10 years ^{1,2,3}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

²1 glass is equivalent to 150 mL milk.

³The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting, maternal total energy intake and either gestational age-adjusted birth weight

(A), breastfeeding (B) or child's milk intake (C).

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

| | Body mass index (S | D) | Fat mass index (SD) |) | Lean mass index (S | D) | Android/gynoid fat ratio (SD) | mass | Abdominal visceral mass index (SD) | l fat | Liver fat fraction (| (SD) |
|--------------------------|--------------------|-----|---------------------|-----|--------------------|-----|----------------------------------|------|---------------------------------------|-------|----------------------|------|
| | <i>n</i> =2,461 | n | <i>n</i> =2,433 | n | <i>n</i> =2,443 | n | <i>n</i> =2,436 | n | <i>n</i> =1,238 | n | <i>n</i> =1,386 | n |
| Maternal mil | k intake | | | | | | | | | | | |
| 0-0.9 glass | Reference | 798 | Reference | 786 | Reference | 786 | Reference | 787 | Reference | 409 | Reference | 460 |
| 1-1.9 glasses | 0.07 (-0.03, 0.17) | 561 | 0.04 (-0.06, 0.14) | 556 | 0.06 (-0.04, 0.16) | 556 | 0.02 (-0.08, 0.13) | 557 | -0.02 (-0.16, 0.13) | 295 | -0.07 (-0.21, 0.08) | 324 |
| 2-2.9 glasses | 0.10 (0.01, 0.19)* | 806 | 0.09 (-0.01, 0.18) | 801 | 0.06 (-0.04, 0.15) | 801 | 0.05 (-0.05, 0.14) | 802 | 0.03 (-0.11, 0.17) | 385 | 0.05 (-0.09, 0.18) | 433 |
| 3-3.9 glasses | 0.11 (-0.06, 0.29) | 130 | 0.07 (-0.11, 0.24) | 127 | 0.15 (-0.03, 0.32) | 127 | -0.01 (-0.19, 0.18) | 127 | -0.02 (-0.27, 0.22) | 74 | -0.04 (-0.27, 0.2) | 82 |
| 4-4.9 glasses | 0.23 (0.04, 0.43)* | 101 | 0.29 (0.09, 0.49)** | 99 | 0.10 (-0.1, 0.29) | 99 | 0.18 (-0.03, 0.39) | 99 | 0.16 (-0.16, 0.48) | 41 | 0.32 (0.02, 0.61)* | 49 |
| ≥5 glasses | 0.29 (0.06, 0.53)* | 65 | 0.28 (0.04, 0.52)* | 64 | 0.24 (0.00, 0.48)* | 64 | 0.18 (-0.07, 0.44) | 64 | 0.40 (0.05, 0.75)* | 34 | 0.11 (-0.22, 0.45) | 38 |
| P for trend ⁴ | <0.001** | | 0.001** | | NA ⁵ | | NA ⁵ | | NA ⁵ | | NA ⁵ | |

Supplemental Table 6. Associations of maternal first trimester milk intake with childhood fat and lean mass at the age of 10 years ^{1,2,3}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5

glasses of milk per day (milk drinks excluded), respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

³The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting and maternal total energy intake.

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

| Supplemental Table 7. Associations of maternal first trimester milk intake with childhood fat and lean mass a | it the age of | 10 years ^{1,2,3} |
|---|---------------|---------------------------|
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| | Body mass index (SD) $n-2.461$ | | Fat mass index (SD) | | Lean mass index (SD) | | Android/gynoid fat mass ratio (SD) | | Abdominal visceral fat mass index (SD) | | Liver fat fraction (SD) | |
|--------------------------|--------------------------------|-----|---------------------|-----|----------------------|-----|---------------------------------------|-----|---|-----|-------------------------|-----|
| | <i>n</i> =2,461 | n | <i>n</i> =2,433 | n | <i>n</i> =2,443 | n | <i>n</i> =2,436 | n | <i>n</i> =1,238 | n | n=1,386 | n |
| Maternal mill | k intake | | | | | | | | | | | |
| 0-0.9 glass | Reference | 662 | Reference | 651 | Reference | 651 | Reference | 652 | Reference | 339 | Reference | 380 |
| 1-1.9 glasses | 0.11 (0.01, 0.21)* | 637 | 0.09 (-0.02, 0.19) | 631 | 0.06 (-0.04, 0.16) | 631 | 0.09 (-0.02, 0.20) | 632 | 0.00 (-0.15, 0.14) | 330 | -0.01 (-0.15, 0.13) | 368 |
| 2-2.9 glasses | 0.13 (0.03, 0.23)** | 691 | 0.12 (0.02, 0.22)* | 687 | 0.06 (-0.04, 0.16) | 687 | 0.08 (-0.03, 0.18) | 687 | 0.07 (-0.08, 0.22) | 336 | 0.09 (-0.05, 0.23) | 379 |
| ≥3 glasses | 0.17 (0.06, 0.29)** | 471 | 0.19 (0.07, 0.30)** | 464 | 0.07 (-0.04, 0.19) | 464 | 0.13 (0.01, 0.26)* | 465 | 0.09 (-0.08, 0.27) | 233 | 0.11 (-0.05, 0.28) | 259 |
| P for trend ⁴ | 0.003** | | 0.001** | | NA ⁵ | | NA ⁵ | | NA ⁵ | | NA ⁵ | |

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, and \geq 3 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

 2 1 glass is equivalent to 150 mL milk.

³The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting and maternal total energy intake.

⁴*P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

⁵ Not applicable: secondary analysis not performed as results from primary analysis are not linear.

| | Body mass index (SD) | | Fat mass index (SD) | | Lean mass index (SD) | | Android/gynoid fat mass ratio (SD) | | Abdominal visceral fat mass index (SD) | | Liver fat fraction (SD) | |
|--------------------------|-----------------------|-----|------------------------|-----|----------------------|-----|---------------------------------------|-----|---|-----|-------------------------|-----|
| | <i>n</i> =2,461 | n | <i>n</i> =2,433 | n | <i>n</i> =2,443 | n | <i>n</i> =2,436 | n | <i>n</i> =1,238 | n | <i>n</i> =1,386 | n |
| Maternal cheese intake | | | | | | | | | | | | |
| 1 st quartile | Reference | 615 | Reference | 612 | Reference | 612 | Reference | 613 | Reference | 252 | Reference | 252 |
| 2nd quartile | -0.07 (-0.17, 0.03) | 617 | -0.13 (-0.24, -0.03)** | 608 | 0.07 (-0.03, 0.17) | 608 | -0.10 (-0.21, 0.01) | 608 | -0.13 (-0.29, 0.04) | 306 | -0.33 (-0.48, -0.18)** | 306 |
| 3 rd quartile | -0.12 (-0.23, -0.01)* | 614 | -0.23 (-0.33, -0.12)** | 607 | 0.11 (0.00, 0.22) | 607 | -0.22 (-0.33, -0.11)** | 609 | -0.21 (-0.38, -0.05)** | 337 | -0.26 (-0.42, -0.11)** | 337 |
| 4th quartile | -0.12 (-0.23, -0.01)* | 615 | -0.21 (-0.32, -0.10)** | 606 | 0.10 (-0.01, 0.21) | 606 | -0.18 (-0.29, -0.06)** | 606 | -0.31 (-0.48, -0.15)** | 343 | -0.25 (-0.40, -0.09)** | 343 |

Supplemental Table 8. Associations of maternal first trimester cheese intake with childhood fat and lean mass at the age of 10 years ^{1,2}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers were in the 2nd, 3rd and 4th quartile of cheese intake, respectively, as compared to those whose mothers were in the 1st quartile.

²The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting and maternal total energy intake.

| | Body mass index (SD) | | Fat mass index (SD)Lean m | | Lean mass index (S | Lean mass index (SD) Android/gynoid fat mass ratio (SD) | | ass | ss Abdominal visceral fat mass index (SD) | | Liver fat fraction (SD) | |
|--------------------------|------------------------|-----|---------------------------|-----|---------------------|--|------------------------|-----|--|-----|-------------------------|-----|
| | <i>n</i> =2,461 | n | <i>n</i> =2,433 | n | n=2,443 | n | <i>n</i> =2,436 | n | <i>n</i> =1,238 | n | <i>n</i> =1,386 | n |
| Maternal yo | ghurt intake | | | | | | | | | | | |
| 1 st quartile | Reference | 666 | Reference | 656 | Reference | 656 | Reference | 657 | Reference | 320 | Reference | 363 |
| 2nd quartile | 0.01 (-0.10, 0.12) | 522 | 0.01 (-0.10, 0.12) | 518 | -0.01 (-0.12, 0.10) | 518 | 0.02 (-0.1, 0.13) | 519 | 0.00 (-0.17, 0.16) | 256 | 0.19 (0.04, 0.35)* | 293 |
| 3rd quartile | -0.23 (-0.33, -0.13)** | 711 | -0.25 (-0.35, -0.15)** | 702 | -0.09 (-0.19, 0.01) | 702 | -0.17 (-0.28, -0.06)** | 702 | -0.23 (-0.38, -0.08)** | 358 | -0.07 (-0.21, 0.08) | 396 |
| 4 th quartile | -0 15 (-0 26 -0 04)** | 562 | -0 18 (-0 29 -0 08)** | 557 | -0.07 (-0.18, 0.04) | 557 | -0.11 (-0.22, 0.00) | 558 | -0 17 (-0 33 -0 01)* | 304 | -0.03(-0.18, 0.12) | 334 |

Supplemental Table 9. Associations of maternal first trimester yoghurt intake with childhood fat and lean mass at the age of 10 years ^{1,2}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers were in the 2nd, 3rd and 4th quartile of yoghurt intake, respectively, as compared to those whose mothers were in the 1st quartile.

²The models are adjusted for child's sex, child's age at follow-up measurement, maternal smoking, maternal vomiting and maternal total energy intake.

| | Systolic blood press | sure (SD) | Diastolic blood pressure (SD | | | |
|--------------------------|----------------------|-----------|------------------------------|-----|--|--|
| | n=2,379 | п | n=2,379 | n | | |
| Maternal milk intake | | | | | | |
| 0-0.9 glass | Reference | 635 | Reference | 635 | | |
| 1-1.9 glasses | 0.03 (-0.08, 0.14) | 616 | 0.03 (-0.08, 0.14) | 616 | | |
| 2-2.9 glasses | 0.07 (-0.03, 0.18) | 667 | 0.09 (-0.02, 0.20) | 667 | | |
| 3-3.9 glasses | 0.09 (-0.05, 0.23) | 263 | 0.07 (-0.07, 0.21) | 263 | | |
| 4-4.9 glasses | 0.10 (-0.12, 0.31) | 92 | 0.03 (-0.19, 0.24) | 92 | | |
| ≥5 glasses | 0.22 (0.01, 0.42)* | 106 | 0.21 (0.01, 0.42)* | 106 | | |
| P for trend ⁴ | 0.019* | | 0.046* | | | |

Supplemental Table 10. Associations of maternal first trimester milk intake with childhood blood pressure at the age of 10 years ^{1,2,3}

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

²1 glass is equivalent to 150 mL milk.

³ The models are adjusted for child's sex and child's age at follow-up measurement.

 ${}^{4}P$ -values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable.

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| Supplemental Table 11. Associations of maternal first trimester milk intake with childhood metabolic outcomes a | t the age o | of 10 years ^{1,2,} |
|---|-------------|-----------------------------|
|---|-------------|-----------------------------|

| | Total cholesterol (SD) | | HDL cholesterol (SD) | | LDL cholesterol (SD) | | Triglycerides (SD) | | Insulin (SD) | | Glucose (SD) | |
|----------------------|------------------------|-----|----------------------|-----|----------------------|-----|--------------------|-----|---------------------|-----|---------------------|-----|
| | <i>n</i> =1,718 | n | <i>n</i> =1,705 | n | <i>n</i> =1,698 | n | <i>n</i> =1,701 | n | <i>n</i> =1,703 | n | <i>n</i> =1,704 | n |
| Maternal milk intake | | | | | | | | | | | | |
| 0-0.9 glass | Reference | 488 | Reference | 447 | Reference | 445 | Reference | 446 | Reference | 477 | Reference | 477 |
| 1-1.9 glasses | -0.01 (-0.14, 0.12) | 452 | -0.05 (-0.18, 0.08) | 453 | 0.00 (-0.13, 0.13) | 449 | 0.08 (-0.05, 0.22) | 450 | 0.04 (-0.09, 0.17) | 451 | 0.05 (-0.08, 0.18) | 453 |
| 2-2.9 glasses | -0.03 (-0.15, 0.10) | 486 | -0.08 (-0.20, 0.05) | 487 | 0.00 (-0.12, 0.13) | 486 | 0.09 (-0.04, 0.21) | 487 | -0.11 (-0.24, 0.02) | 487 | 0.07 (-0.06, 0.20) | 487 |
| 3-3.9 glasses | 0.00 (-0.17, 0.17) | 188 | -0.04 (-0.21, 0.13) | 188 | 0.05 (-0.12, 0.22) | 188 | 0.03 (-0.14, 0.20) | 188 | -0.08 (-0.25, 0.09) | 188 | 0.06 (-0.11, 0.23) | 188 |
| 4-4.9 glasses | -0.01 (-0.28, 0.27) | 57 | 0.00 (-0.28, 0.27) | 57 | -0.06 (-0.33, 0.22) | 57 | 0.12 (-0.15, 0.40) | 57 | -0.05 (-0.33, 0.22) | 57 | 0.25 (-0.03, 0.52) | 57 |
| ≥5 glasses | -0.03 (-0.27, 0.22) | 73 | -0.06 (-0.31, 0.19) | 73 | 0.03 (-0.21, 0.27) | 73 | 0.01 (-0.23, 0.26) | 73 | -0.01 (-0.26, 0.24) | 73 | -0.14 (-0.39, 0.11) | 72 |

¹Values are differences in childhood outcomes in standard deviations (95% Confidence Interval) between children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5

glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day.

²1 glass is equivalent to 150 mL milk.

³ The models are adjusted for child's sex and child's age at follow-up measurement.

Supplemental Figure 2. Associations of maternal first trimester milk intake with the risk of childhood overweight/obesity and clustering of cardiometabolic risk factors at the age of 10 years



Values are odds ratio's (95% Confidence Interval) that reflect the risk of overweight/obesity (A) or clustering of cardio-metabolic risk factors (B) in children whose mothers consumed 1-1.9, 2-2.9, 3-3.9, 4-4.9, and \geq 5 glasses of milk per day, respectively, as compared to those whose mothers consumed 0-0.9 glasses of milk per day. 1 glass is equivalent to 150 mL milk. The models are adjusted for child's sex and child's age at follow-up measurement. *P*-values for trend were obtained from models in which the categorized milk intake variable was entered as continuous variable. **P*-value< 0.05 ***P*-value <0.0125 (Bonferroni corrected *P*-value)