

Table 1. Characteristics of mother-child pairs from the EDEN cohort according to maternal diet patterns during pregnancy

| | % (N) | Mean (SD), N | Maternal diet during pregnancy | | | | | |
|---|-----------------|-------------------|--------------------------------|-------------------|--------|-----------------------------|-------------------|--------|
| | | | Healthy pattern | | | Western pattern | | |
| | | | Lowest quartile (N=309) | Others (N=933) | p | Highest quartile (N=310) | Others (N=932) | p |
| Parental characteristics at baseline | | | | | | | | |
| Maternal education (years) | | 13.7 (2.3), 1146 | 12.9 (2.1) | 14.0 (2.3) | <.0001 | 13.0 (2.2) | 13.9 (2.2) | <.0001 |
| Maternal age (years) | | 29.3 (4.7), 1242 | 27.6 (4.9) | 29.9 (4.5) | <.0001 | 28.4 (4.7) | 29.7 (4.7) | <.0001 |
| Maternal pre-pregnancy BMI (kg/m ²) | | | | | .1718 | | | .0003 |
| ≤18.5 | 7.8 (97/1242) | | 6.8 | 8.1 | | 13.2 | 6.0 | |
| [18.5-25[| 66.6 (827/1242) | | 63.4 | 67.6 | | 64.2 | 67.4 | |
| [25-30[| 17.7 (220/1242) | | 19.4 | 17.2 | | 14.2 | 18.9 | |
| ≥30 | 7.9 (98/1242) | | 10.4 | 7.1 | | 8.4 | 7.7 | |
| mean | | 23.1 (4.3), 1242 | 23.6 (4.3) | 23.0 (4.4) | .221 | 22.9 (4.7) | 23.2 (4.2) | .2711 |
| Parental separation | 3.8 (45/1200) | | 4.4 | 3.5 | .4766 | 4.7 | 3.4 | .3135 |
| Pregnancy characteristics | | | | | | | | |
| Maternal depressive symptoms | | 11.0 (7.4), 1235 | 10.7 (6.8) | 11.0 (7.6) | .4465 | 11.7 (7.7) | 10.7 (7.3) | .0484 |
| Maternal anxiety | | 9.8 (9.5), 1024 | 9.4 (9.1) | 10.0 (9.6) | .4348 | 9.9 (9.4) | 9.8 (9.5) | .8665 |
| Maternal alcohol-drinking | 8.1 (101/1242) | | 6.5 | 8.7 | .2182 | 9.7 | 7.6 | .2505 |
| Maternal smoking (cigarettes/day) | | | | | .0615 | | | <.0001 |
| 0 | 78.0 (956/1225) | | 73.3 | 79.6 | | 69.3 | 80.9 | |
|]0-5[| 12.2 (149/1225) | | 13.2 | 11.8 | | 12.4 | 12.1 | |
| [5-10[| 7.0 (86/1225) | | 9.9 | 6.1 | | 11.1 | 5.7 | |
| ≥10 | 2.8 (34/1225) | | 3.6 | 2.5 | | 7.2 | 1.3 | |
| mean | | 1.1 (2.7), 1225 | 1.4 (3.0) | 1.0 (2.6) | .0285 | 2.0 (3.8) | 0.8 (2.2) | <.0001 |
| Gestational diabetes | 6.8 (84/1242) | | 4.2 | 7.6 | .0390 | 1.9 | 8.4 | <.0001 |
| Multiparity | 53.0 (658/1242) | | 44.7 | 55.7 | .0007 | 58.1 | 51.3 | .0384 |
| Child characteristics at birth | | | | | | | | |
| Male sex | 52.4 (651/1242) | | 48.9 | 53.6 | .1496 | 52.9 | 52.3 | .8426 |
| Birth weight (kg) | | 3.30 (0.49), 1242 | 3.27 (0.49) | 3.30 (0.49) | .3054 | 3.28 (0.49) | 3.30 (0.49) | .6196 |
| Gestational length (weeks) | | 39.3 (1.7), 1242 | 39.3 (1.6) | 39.3 (1.7) | .4424 | 39.2 (1.7) | 39.3 (1.6) | .4801 |
| Postnatal characteristics | | | | | | | | |
| Family income (pregnancy-age 1) | | 5.0 (1.3), 1241 | 4.6 (1.2) | 5.1 (1.3) | <.0001 | 4.7 (1.3) | 5.1 (1.3) | <.0001 |

| | | | | | | | | |
|---|-----------------|-----------------|-----------|-----------|--------|-----------|-----------|--------|
| Maternal depressive symptoms (1 st year) | | 4.4 (4.6), 1161 | 4.4 (4.4) | 4.4 (4.7) | .9812 | 4.8 (5.0) | 4.3 (4.5) | .0869 |
| Breastfeeding duration | | | | | <.0001 | | | .0018 |
| No | 25.3 (314/1242) | | 31.4 | 23.3 | | 32.6 | 22.9 | |
|]0-6[months | 54.7 (680/1242) | | 57.3 | 53.9 | | 51.3 | 55.9 | |
| >6 months | 20.0 (248/1242) | | 11.3 | 22.8 | | 16.1 | 21.2 | |
| Children diet patterns (2 ^d year) | | | | | | | | |
| Processed and fast foods (Highest quartile) | 24.9 (278/1115) | | 26.5 | 24.4 | .5002 | 42.9 | 19.1 | <.0001 |
| Guidelines (Lowest quartile) | 25.0 (279/1115) | | 39.0 | 20.5 | <.0001 | 34.2 | 22.0 | <.0001 |
| Baby foods (Highest quartile) | 25.0 (279/1115) | | 30.5 | 23.3 | .0162 | 26.9 | 24.4 | .4053 |

Children's externalizing trajectories

| | | | | | | | | |
|----------------------------------|-----------------|--|------|------|-------|------|------|-------|
| Hyperactivity-inattention (High) | 15.0 (186/1242) | | 21.3 | 12.8 | .0003 | 21.6 | 12.8 | .0002 |
| Conduct problems (High) | 15.9 (197/1242) | | 19.4 | 14.7 | .0484 | 18.7 | 14.9 | .1130 |

BMI: Body Mass Index; SD: Standard Deviation, p-values from t-test and chi-square

Table 2. Associations between maternal diet during pregnancy and children's externalizing problems between 3 and 8 years of age (EDEN cohort, N=1242)

| | Unadjusted model | Adjusted model for Covariates* | Adjusted model for Covariates* + Children DP** |
|---|-------------------------|--------------------------------|--|
| | OR (95%CI) | OR (95%CI) | OR (95%CI) |
| Hyperactivity-inattention (high trajectory vs others) | | | |
| Healthy (low quartile vs others) | 1.84 (1.32-2.57) | 1.70 (1.17-2.49) | 1.61 (1.09-2.37) |
| Western (high quartile vs others) | 1.88 (1.35-2.63) | 1.72 (1.18-2.51) | 1.67 (1.13-2.47) |
| Conduct problems (high trajectory vs others) | | | |
| Healthy pattern (low quartile vs others) | 1.40 (1.01-1.96) | 1.37 (0.94-2.01) | 1.38 (0.94-2.02) |
| Western pattern (high quartile vs others) | 1.31 (0.94-1.84) | 1.14 (0.77-1.68) | 1.13 (0.77-1.66) |

*Covariates: Full adjustment on *Healthy and Western DP during pregnancy, Centre, Child gender, Maternal age, Pre-pregnancy BMI, Maternal smoking, Maternal alcohol-drinking, Gestational diabetes, Multiparity, Gestational length, Birth weight, Breastfeeding, Prenatal maternal depressive symptoms, Prenatal maternal anxiety, Postnatal maternal depressive symptoms, Parental separation, Family income, Maternal education*

**Children DP: *Children dietary patterns at age 2 (Processed and fast foods, Guidelines, Baby food).*

OR: Odds Ratio; CI: Confidence Interval; DP: Dietary Patterns