**Supplementary Data**

**Table S1: Bivariate associations between sociodemographic and pregnancy-related factors and hair cortisol (HCC) and hair cortisone concentrations (HCNC).** Shown are potential confounders of HCC and HCNC and the respective linear regression coefficient (b), 95% confidence interval (95% CI) and reference category in regression model (ref.). Steroid concentrations were ln-transformed. \*p≤ 0.05. Bold face indicates significant associations.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | 2nd trimester | 3rd trimester |
|  | n | HCC | HCNC | HCC | HCNC |
|  |  | b (95% CI) | b (95% CI) | b (95% CI) | b (95% CI) |
| Sociodemographic factors |  |  |  |  |  |
| Maternal nationality |  |  |  |  |  |
| German | 55/60 | ref. | ref. | ref. | ref. |
| Other | 5/60 | -0.20(-1.10; 0.69) | **-0.94\*****(-1.57; -0.31)** | -0.09(-0.82; 0.65) | -0.16(-1.02; 0.69) |
|  |  |  |  |  |  |
| Maternal education (years) |  |  |  |  |  |
| 10-11 | 9/60 | ref. | ref. | ref. | ref. |
| >11 | 51/60 | -0.34(-0.99; 0.31) | 0.11(-0.37; 0.59) | -0.04(-0.61; 0.53) | -0.14(-0.73; 0.46) |
| Socioeconomic status (SES) (Winkler Index)  |  |  |  |  |  |
| Low SES | 6/56 | 0.33(-0.43; 1.08) | -0.02(-0.61; 0.57) | 0.40(-0.30; 1.10) | 0.22(-0.68; 0.78) |
| Middle SES | 23/56 | 0.35(-0.12; 0.83) | 0.04(-0.33; 0.41) | 0.27(-0.16; 0.71) | 0.13(-0.33; 0.58) |
| High SES | 27/56 | ref. | ref. | ref. | ref. |
|  |  |  |  |  |  |
| Maternal age at delivery (years) |  |  |  |  |  |
| ≤25 | 13/62 | ref. | ref. | ref. | ref. |
| >25≤30 | 23/62 | **0.60\*****(0.03; 1.17)** | 0.22(-0.24; 0.69) | -0.13(-0.70; 0.44) | 0.17(-0.42; 0.76) |
| >30≤35 | 17/62 | **0.64\*****(0.01; 1.26)** | -0.11(-0.61; 0.39) | 0.16(-0.44; 0.76) | 0.21(-0.42; 0.84) |
| >35≤40 | 9/62 | **0.78\*****(0.03; 1.52)** | 0.17(-0.42; 0.76) | 0.06(-0.63; 0.76) | 0.30(-0.43; 1.02) |
|  |  |  |  |  |  |
| Persons living in household (Excluding newborn) |  |  |  |  |  |
| 2 | 32/55 | -0.25(-0.90; 0.40) | -0.05(-0.55; 0.45) | 0.11(-0.49; 0.70) | 0.15(-0.47; 0.77) |
| 3 | 15/55 | -0.31(-1.05; 0.43) | 0.02(-0.56; 0.60) | 0.04(-0.62; 0.70) | 0.36(-0.33; 1.04) |
| ≥4 | 8/55 | ref. | ref. | ref. | ref. |
| Pregnancy-related factors |  |  |  |  |  |
| Maternal BMI at first detection of Gravidity |  |  |  |  |  |
| Underweight | 1/60 | 0.16(-1.57; 1.88) | -**1.58\***(-2.81; -0.34) | **-2.20\***(-3.65; -0.76) | **-2.06\***(-3.73; -0.62) |
| Normal | 49/60 | ref. | ref. | ref. | ref. |
| Overweight | 8/60 | 0.32(-0.34; 0.97) | 0.31(-0161; 0.776) | -0.41(-0.96; 0.13) | -0.19(-0.90; 0.28) |
| Obese | 2/60 | -0.89(-2.12; 0.35) | -0.63(-1.52; 0.25) | -1.20(-2.64; 0.25) | -2.24(-2.56; 0.55) |
|  |  |  |  |  |  |
| BMI Group 1 (underweight & normal) | 50/60 | ref. | ref. | ref. | ref. |
| BMI Group 2 (overweight & obese) | 10/60 | 0.07(-0.53; 0.67) | 0.15(-0.30; 0.61) | -0.45(-1.01; 0.10) | -0.34(-0.93; 0.25) |
|  |  |  |  |  |  |
| Primipara | 33/60 | -0.06(-0.51; 0.39) | -0.05(-0.40; 0.29) | 0.07(-0.34; 0.48) | -0.03(-0.45; 0.40) |
|  |  |  |  |  |  |
| Newborn`s gender  |  |  |  |  |  |
| Male | 34/62 | 0.10(-0.35; 0.54) | 0.05(-0.29; 0.39) | 0.08(-0.33; 0.49) | -0.01(-0.43; 0.42) |
| Female | 28/62 | ref. | ref. | ref. | ref. |
|  |  |  |  |  |  |
| Smoking during pregnancy yes | 2/61 | -0.08(-1.31; 1.15) | 0.26(-0.72; 1.15) | -0.45(-1.58; 0.67) | -0.08(-1.25; 1.10) |
|  |  |  |  |  |  |
| Previous abortion | 4/62 | -0.57(-1.45; 0.30) | -0.49(-1.15; 0.18) | -0.50(-1.30; 0.30) | -0.49(-1.10; 0.82) |
|  |  |  |  |  |  |
| Number of miscarriage(s) |  |  |  |  |  |
| 0 | 49/62 | ref. | ref. | ref. | ref. |
| 1 | 12/62 | -0.08(-0.64; 0.48) | -0.39(-0.82; 0.04) | 0.19(-0.32; 0.70) | -0.15(-0.68; 0.42) |
| 2 | 1/62 | -0.42(-2.17; 1.32) | 0.13(-1.17; 1.42) | 0.53(-1.07; 2.12) | 0.22(-1.59; 1.72) |

**Table S2.: Bivariate associations between hair characteristics and hair cortisol (HCC) and hair cortisone concentrations (HCNC).** Shown are potential confounders of HCC and HCNC and the respective linear regression coefficient (b), 95% confidence interval (95% CI) and reference category in regression model (ref.). Steroid concentrations were ln-transformed. \*p≤ 0.05. Bold face indicates significant associations.

|  |  |  |
| --- | --- | --- |
|  | 2nd trimester | 3rd trimester |
|  |  | HCC | HCNC |  | HCC | HCNC |
|  | n | b (95% CI) | b (95% CI) | n | b (95% CI) | b (95% CI) |
| Location of hair sample |  |  |  |  |  |  |
| Occipital | 27/55 | ref. | ref. | 39/58 | ref. | ref. |
| Parietal/temporal | 28/55 | -0.09(-0.56; 0.38) | -0.12(-0.47; 0.23) | 19/58 | 0.16(-0.26; 0.58) | **0.47\***(0.03; 0.92) |
|  |  |  |  |  |  |  |
| Frequency of hair washing per week  |  |  |  |  |  |  |
| 1-3 days/week | 34/60 | ref. | ref. | 32/59 | ref. | ref. |
| Every 2nd day | 19/60 | -0.28(-0.77; 0.21) | -0.35(-0.72; 0.02) | 18/59 | -0.24(-0.70; 0.21) | -0.23(-0.66; 0.44) |
| 4-6 days/ week | 2/60 | 0.54(-0.69; 1.76) | 0.50(-0.42; 1.42) | 2/59 | 0.08(-1.04; 1.20) | -0.64(-1.88; 0.84) |
| Daily | 5/60 | -0.29(-1.10; 0.52) | -0.58(-1.25; 0.09) | 7/59 | **-0.92\***(-1.60; -0.23) | **-1.41\***(-2.13; -0.70) |
|  |  |  |  |  |  |  |
| Season of hair sample collection |  |  |  |  |  |  |
| Winter | 17/62 | ref. | ref. | 17/62 | ref. | ref. |
| Spring | 15/62 | 0.08(-0.61; 0.78) | -0.08(-0.56; 0.40) | 19/62 | -0.30(-0.86; 0.27) | 0.01(-0.51; 0.52) |
| Summer  | 14/62 | -0.03(-0.76; 0.70) | 0.04(-0.47; 0.54) | 12/62 | 0.10(-0.60; 0.78) | 0.49(-0.14; 1.12) |
| Fall | 16/62 | 0.04(-0.67; 0.75) | 0.52(-0.03; 1.01) | 14/62 | -0.10(-0.71; 0.52) | 0.21(-0.35; 0.77) |
|  |  |  |  |  |  |  |
| Storage duration (years) |  |  |  |  |  |  |
| <1  | 3/62 | ref. | ref. | 9/62 | ref. | ref. |
| 1-1.5  | 17/62 | 0.21(-0.95; 1.37) | 0.51(-0.33; 1.35) | 24/62 | -0.04(-0.71; 0.64) | -0.32(-0.95; 0.31) |
| 1.5-2 | 26/62 | 0.14(-0.97; 1.25) | 0.13(-0.67; 0.93) | 22/62 | -0.14(-0.81; 0.54) | -0.34(-0.98; 0.30) |
| >2 | 16/62 | 0.03(-1.10; 1.16) | 0.24(-0.57; 1.05) | 7/62 | 0.48(-0.37; 1.32) | -0.30(-1.10; 0.49) |



**Supplementary Figure S3: Flow chart of sample exclusion.** Criteria for exclusion of samples with the respective sample size (n) are shown.