## **Supplementary Online Content**

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**eTable 1.** Sociodemographic and Clinical Characteristics of Included and Excluded Girls Per Wave

**eTable 2.** Associations Between OCP Use and Depressive Symptom Scores During 9 Years of Follow-up

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This supplementary material has been provided by the authors to give readers additional information about their work.

| Characteristic                              | 16 years of age     |                     |                                | 19 years of age     |                     |                                | 22 years of age     |                     |                                | 25 years of age     |                    |                                |
|---|---------------------|---------------------|--------------------------------|---------------------|---------------------|--------------------------------|---------------------|---------------------|--------------------------------|---------------------|--------------------|--------------------------------|
|   | Included<br>(n=845) | Excluded<br>(n=107) | <i>P</i><br>Value <sup>a</sup> | Included<br>(n=903) | Excluded<br>(n=282) | <i>P</i><br>Value <sup>a</sup> | Included<br>(n=826) | Excluded<br>(n=111) | <i>P</i><br>Value <sup>a</sup> | Included<br>(n=743) | Excluded<br>(n=49) | <i>P</i><br>Value <sup>a</sup> |
| Age, mean<br>(SD), y                        | 16.2 ±<br>0.7       | 16.5 ± 0.9          | .005                           | 19.0 ±<br>0.6       | 19.5 ± 0.6          | <.001                          | 22.2 ±<br>0.7       | 22.5 ± 0.6          | <.001                          | 25.6 ±<br>0.6       | 25.8 ± 0.6         | .04                            |
| Dutch ethnicity,<br>No./total No.<br>(%)    | 745/845<br>(88.2)   | 238/287<br>(82.9)   | .03                            | 799/903<br>(88.5)   | 184/229<br>(80.3)   | .002                           | 736/826<br>(89.1)   | 247/306<br>(80.7)   | <.001                          | 669/743<br>(90.0)   | 314/389<br>(80.7)  | <.001                          |
| SES, mean<br>(SD) <sup>b</sup>              | 0.07 ±<br>0.77      | -0.27 ±<br>0.77     | <.001                          | 0.05 ±<br>0.76      | -0.34 ±<br>0.79     | <.001                          | 0.09 ±<br>0.76      | -0.33 ±<br>0.77     | <.001                          | 0.11 ±<br>0.76      | 29 ±<br>0.76       | <.001                          |
| BMI, mean<br>(SD)                           | 21.7 ±<br>3.1       | 21.8 ± 3.8          | .82                            | 23.1 ±<br>3.9       | 23.9 ± 5.9          | .26                            | 23.7 ±<br>4.4       | 23.4 ± 4.9          | .66                            | 24.1 ±<br>4.7       | 24.0 ± 5.2         | .86                            |
| Virgin, No./total<br>No. (%)                | 498/836<br>(59.6)   | 22/43<br>(51.2)     | .34                            | 242/900<br>(26.9)   | 2/8 (25.0)          | 1.00                           | 1/19 (5.3)          | 98/825<br>(11.9)    | .72                            | 42/697<br>(5.7)     | 0/24 (0.0)         | .64                            |
| Age at<br>menarche,<br>mean (SD), y         | 12.9 ±<br>1.2       | 12.9 ± 1.2          | .98                            | 12.9 ±<br>1.2       | 12.7 ± 1.4          | .31                            | 12.9 ±<br>1.2       | 12.8 ± 1.1          | .65                            | 12.9 ±<br>1.3       | 12.9 ± 1.1         | .91                            |
| Antidepressant<br>use, No./total<br>No. (%) | 1/845<br>(0.1)      | 1/287<br>(0.3)      | .44                            | 10/903<br>(1.1%)    | 0/229<br>(0.0)      | .23                            | 22/826<br>(2.7)     | 1/306<br>(0.3)      | .009                           | 31/743<br>(4.2)     | 1/389<br>(0.3)     | <.001                          |
| Depressive<br>symptom score,<br>mean (SD)   | 0.36 ±<br>0.30      | 0.31 ±<br>0.22      | .33                            | 0.36 ±<br>0.33      | 0.22 ±<br>0.19      | .001                           | 0.38 ±<br>0.33      | 0.25 ±<br>0.31      | .09                            | 0.43 ±<br>0.36      | 0.39 ±<br>0.33     | .44                            |

eTable 1. Sociodemographic and Clinical Characteristics of Included and Excluded Girls Per Wave

Abbreviations: BMI, body mass index (calculated 1 as weight in kilograms divided by height in meters squared); SES, socioeconomic status. All variables were assessed at every wave, except for SES, ethnicity, and menarche; the first 2 were determined at study entry (T1) and the latter at age 16 years (T3).

<sup>a</sup> Based on 2-tailed  $\chi 2$  tests for dichotomous variables or t tests for continuous variables.

<sup>b</sup> Continuous scale based on the educational level, job, and income of the parents.

|                                  |                     | Depressive symptom score |         |  |  |  |
|----------------------------------|---------------------|--------------------------|---------|--|--|--|
|                                  | N users vs nonusers | B (95%CI)                | P Value |  |  |  |
| Users vs. nonusers               |                     |                          |         |  |  |  |
| OCP use                          | 1806 vs 1507        | 0.007 (-0.013; 0.026)    | .50     |  |  |  |
| Adjusted OCP use <sup>a</sup>    | 1782 vs 1483        | 0.006 (-0.013; 0.025)    | .52     |  |  |  |
| 16 year old users                | 300 vs 530          | 0.075 (0.031; 0.120)     | <.001   |  |  |  |
| 19 year old users                | 606 vs 285          | 0.013 (-0.033; 0.060)    | .57     |  |  |  |
| 22 year old users                | 534 vs 278          | -0.013 (-0.061; 0.034)   | .59     |  |  |  |
| 25 year old users                | 342 vs 390          | -0.032 (-0.083; 0.020)   | .23     |  |  |  |
|                                  |                     |                          |         |  |  |  |
| First-time users vs. never users |                     |                          |         |  |  |  |
| OCP use                          | 828 vs 1071         | 0.026 (0.002; 0.050)     | .03     |  |  |  |
| Adjusted OCP use <sup>a</sup>    | 818 vs 1054         | 0.021 (-0.005; 0.046)    | .11     |  |  |  |
|                                  |                     |                          |         |  |  |  |

eTable 2. Associations Between OCP Use and Depressive Symptom Scores During 9 Years of Follow-up

Data are (adjusted)  $\beta$ -coefficient with 95% CI for the depressive symptom score through multilevel analysis (i.e., mixed models).

<sup>a</sup> Adjusted for age, ethnicity, and SES

**eTable 3.** Post Hoc Comparison of Sociodemographic and Clinical Variables Among OCP Users and Nonusers at Age 16 Years and at Age 13 Years When OCP Use Was Unlikely

|  | 13                              | years of age                 | 16 years of age         |                    |                  |                         |
|--|---------------------------------|------------------------------|-------------------------|--------------------|------------------|-------------------------|
|  | No OCP use at age<br>16 (n=530) | OCP use at age 16<br>(n=306) | P<br>Value <sup>a</sup> | No OCP use (n=536) | OCP use (n=309)  | P<br>Value <sup>a</sup> |
| Dutch ethnicity, No./total No. (%)                               | 460/536 (85.8)                  | 285/309 (92.2)               | .006                    | 460/536 (85.8)     | 285/309 (92.2)   | .006                    |
| SES, mean (SD) <sup>b</sup>                                      | 0.17 ± 0.78                     | -0.15 ± 0.71                 | <.001                   | 0.17 ± 0.78        | -0.15 ± 0.71     | <.001                   |
| Virgin, No./total No. (%)  | 515/523 (98.5)                  | 276/303 (91.1)               | <.001                   | 424/533 (79.5)     | 74/303 (24.4)    | <.001                   |
| Family functioning, mean (SD) <sup>c</sup>                       | 1.62 ± 0.39                     | 1.65 ± 0.40                  | .31                     | 1.65 ± 0.39        | 1.67 ± 0.41      | .10                     |
| Stressful experiences in past 2 years, median (IQR) <sup>d</sup> | 2.00 (1.00-4.00)                | 3.00 (1.00-5.75)             | .003                    | 3.00 (2.00-6.00)   | 5.00 (3.00-7.00) | <.001                   |
| Depressive symptom score, mean (SD)                              | 0.30 ± 0.28                     | 0.37 ± 0.30                  | .001                    | 0.33 ± 0.30        | $0.40 \pm 0.30$  | .001                    |
| BMI, mean (SD)   | 19.1 ± 3.3                      | 19.5 ± 3.2                   | .12                     | 21.5 ± 3.12        | 22.0 ± 3.06      | .01                     |
| Age at menarche, mean (SD), y                                    | 12.3 ± 0.90                     | 12.1 ± 0.96                  | .11                     | 13.0 ± 1.17        | 12.6 ± 1.15      | <.001                   |
| Acne, No./total No. (%)  | 150/494 (30.4)                  | 127/271 (46.9)               | <.001                   | 203/267 (43.2)     | 107/244 (43.9)   | .87                     |

Abbreviations: BMI, body mass index (calculated 1 as weight in kilograms divided by height in meters squared); OCP, oral contraceptive pill; SES, socioeconomic status.

All variables were assessed at both age 13 years (T2) and age 16 years (T3). SES and ethnicity are time-invariant variables (determined at study entry [T1]). Differences in these variables are therefore copied from the Table.

<sup>a</sup> Based on 2-tailed χ2 tests for dichotomous variables or t tests or Mann Whitney U tests for continuous variables.

<sup>b</sup> Continuous scale based on the educational level, job, and income of the parents.

<sup>c</sup> Family functioning was assessed by a modified version of the General Functioning Scale of the McMaster Family Assessment Device.<sup>1</sup> A higher scores indicate worse levels of family functioning.

<sup>d</sup> Stressful experiences were assessed with the question "How many stressful experiences have you gone through in the past 2 years?". The answer was rated on a continuous scale between 0 and 10, where 0 indicated no stressful experiences and 10 indicated many stressful experiences.

## eReference.

1. Epstein NB, Baldwin LM, Bishop DS. The McMaster family assessment device. In. Vol 9: Journal of Marital and Family Therapy; 1983:171-180.