**Cumulative Environmental Risk in Early Life is Associated with Mental Disorders in Childhood**

SUPPLEMENTARY MATERIAL

**Authors**

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Supplementary Table 1. International Classification of Disease, 10th Revision (ICD-10) codes for categories of mental disorders included in analyses.

|  |  |
| --- | --- |
| **Diagnostic group** | **ICD-10 codes** |
| Phobias and anxiety | F40, F40.0, F40.0PC, F40.00, F40.01, F40.1, F40.10, F40.2, F40.210, F40.248, F40.8, F40.9, F41, F41.0, F41.0P, F41.0PC, F41.1, F41.2, F41.2P, F41.2PC, F41.3, F41.8, F41.9, F40, F40.0, F40.00, F40.01, F40.1, F40.2, F40.8, F40.9, F40.0PC, F40.10, F40.2, F40.210, F40.248, F41, F41.0, F41.1, F41.2, F41.3, F41.8, F41.9, F41.0P, F41.2P, F41.0PC, F41.2PC, F42, F42.0, F42.1, F42.2, F42.8, F42.9, F43, F43.0, F43.1, F43.12, F43.2, F43.20, F43.21, F43.22, F43.23, F43.24, F43.25, F43.29, F43.8, F43.9, F44, F44.0, F44.1, F44.4, F44.5, F44.6, F44.7, F44.8, F44.81, F44.88, F44.89, F44.9, F45, F45.0, F45.1, F45.2, F45.3, F45.30, F45.32, F45.33, F45.34, F45.38, F45.4, F45.41, F45.42, F45.8, F45.9, F45PC, F48, F48.0, F48.1, F48.8, F48.9 |
| Depressive disorders and emotional disorders of childhood | F32, F32.0, F32.00, F32.01, F32.1, F32.11, F32.2, F32.20, F32.21, F33.2, F32.8, F32.80, F32.81, F32.89, F32.9, F32.90, F32.91, F32.10, F32#, F33, F33.0, F33.1, F33.4, F33.8, F33.9, F34, F34.0, , F34.1, F34.8, F34.9, F38, F38.0, F38.1, F38.8, F39, F53.0 F93, F93.0, F93.1, F93.2, F93.3, F93.8, F93.9 |
| Stress reactions | F43, F43.0, F43.1, F43.12, F43.2, F43.20, F43.21, F43.22, F43.23, F43.24, F43.25, F43.29, F43.8, F43.9 |
| Hyperkinetic disorders | F90, F90.0, F90.1, F90.8, F90.9 |
| Conduct disorders | F91, F91.0, F91.1, F91.2, F91.3, F91.8, F91.9 |
| Developmental disorders | F80, F80.0, F80.1, F80.2, F80.3, F80.45, F80.8, F80.9, F81, F81.0, F81.1, F81.2, F81.3, F81.8, F81.9, F82, F83, F84, F84.0, F84.1, F84.2, F84.3, F84.4, F84.5, F84.8, F84.9, F88, F89 |
| Self-harm | X60, X61, X62, X63, X64, X65, X66, X67, X68, X69, X70, X71, X72, X73, X74, X75, X76, X77, X78, X79, X80, X81, X82, X83, X84, R45.81 |

Supplementary Table 2. Unadjusted OR’s (95% CIs) for associations of sex with environmental risk factors and mental disorders

|  |  |
| --- | --- |
|  | Male Sex |
| **Environmental Risk Factors** |  |
| Childhood maltreatment | **1.05 (1.02, 1.10)** |
| Parental criminal offending | 0.99 (0.95, 1.03) |
| Childhood crime victimisation | 0.94 (0.86, 1.03) |
| Head injury | **1.50 (1.40, 1.62)** |
| Socioeconomic deprivation | 0.99 (0.95, 1.03) |
| Regionality | 0.99 (0.96, 1.03) |
| Neighbourhood crime exposure | 1.00 (0.97, 1.04) |
| Aboriginal Torres Strait Islander Status | 1.04 (0.98, 1.10) |
| Advanced paternal age (>40 years) | 0.98 (0.94, 1.02) |
| Young maternal age (<21 years) | 1.00 (0.94, 1.07) |
| 3 or more prior pregnancies | 1.00 (0.95, 1.06) |
| Premature birth | **1.10 (1.03, 1.17)** |
| Small for gestational age | 1.00 (0.95, 1.05) |
| No/late (>16 weeks) antenatal visit | 1.01 (0.98, 1.04) |
| Maternal prenatal complications | 1.03 (0.98, 1.08) |
| Maternal smoking during pregnancy | 1.00 (0.96, 1.05) |
|  |  |
| **Environmental Risk Score (ERS)** | 1.00 (0.96, 1.04) |
|  |  |
| **Mental Disorders** |  |
| Any mental disorder | **1.47 (1.36, 1.59)** |
| Phobias and anxiety | 1.10 (0.95, 1.27) |
| Depressive and Emotional disorders | **1.55 (1.21, 1.99)** |
| Stress reactions | 1.08 (0.80, 1.47) |
| Hyperkinetic disorders | **3.44 (2.46, 4.93)** |
| Conduct disorders | **2.58 (1.95, 3.45)** |
| Developmental disorders | **2.55 (2.04, 3.21)** |
| Self-harm | **1.55 (1.12, 2.15)** |

Supplementary Table 3. Correlations between environmental risk factors

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. |
| 1. Childhood maltreatment | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Parental criminal offending | 0.25 | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Childhood crime victimisation | 0.26 | 0.11 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Head injury | 0.04 | 0.02 | 0.05 | - |  |  |  |  |  |  |  |  |  |  |  |
| 5. Socioeconomic deprivation | 0.09 | 0.07 | 0.03 | 0.02 | - |  |  |  |  |  |  |  |  |  |  |
| 6. Regionality | 0.06 | 0.09 | 0.02 | <0.01 | 0.13 | - |  |  |  |  |  |  |  |  |  |
| 7. Neighbourhood crime exposure | 0.07 | 0.05 | 0.03 | 0.01 | 0.21 | 0.01 | - |  |  |  |  |  |  |  |  |
| 8. Aboriginal Torres Strait Islander Status | 0.24 | 0.19 | 0.10 | 0.03 | 0.08 | 0.16 | 0.09 | - |  |  |  |  |  |  |  |
| 9. Advanced paternal age (>40 years) | -0.01 | -0.04 | <0.01 | -0.01 | <0.01 | -0.03 | <0.01 | -0.05 | - |  |  |  |  |  |  |
| 10. Young maternal age (<21 years) | 0.20 | 0.13 | 0.10 | 0.02 | 0.09 | 0.08 | 0.05 | 0.19 | -0.09 | - |  |  |  |  |  |
| 11. 3 or more prior pregnancies | 0.12 | 0.08 | 0.04 | <0.01 | 0.08 | 0.07 | 0.03 | 0.10 | 0.12 | -0.07 | - |  |  |  |  |
| 12. Premature birth | 0.05 | 0.03 | 0.02 | <0.01 | 0.01 | 0.01 | <0.01 | 0.03 | 0.01 | 0.01 | 0.02 | - |  |  |  |
| 13. Small for gestational age | 0.06 | 0.04 | 0.02 | <0.01 | 0.03 | -0.01 | 0.02 | 0.04 | <0.01 | 0.03 | -0.01 | 0.01 | - |  |  |
| 14. No/late (>16 weeks) antenatal visit | 0.11 | 0.08 | 0.04 | 0.01 | 0.11 | -0.1 | 0.09 | 0.07 | <0.01 | 0.08 | 0.09 | <0.01 | 0.04 | - |  |
| 15. Maternal prenatal complications | <0.01 | -0.02 | <0.01 | <0.01 | 0.02 | -0.04 | <0.01 | -0.01 | 0.04 | -0.02 | 0.01 | 0.08 | 0.02 | <0.01 | - |
| 16. Maternal smoking during pregnancy | 0.28 | 0.23 | 0.11 | 0.02 | 0.08 | 0.14 | 0.06 | 0.24 | -0.04 | 0.15 | 0.11 | 0.04 | 0.11 | 0.09 | -0.04 |