|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table ST3.** Newcastle–Ottawa scale for assessment of quality of cohort studies (each asterisk represents if individual criterion within the subsection was fulfilled) testing associations between maternal depression and inflammation during pregnancy. | | | | | | |
| Quality assessment criteria | Acceptable(★) | Blackmore et al., 2011 | Azar and Mercer, 2013 | Haeri et al,, 2013\* | Gustafsson et al.,  2018 | Osborne et al., 2018\* |
| **Selection** | | | | | | |
| Representativeness of the exposed cohort? | Representative of average pregnant women (age/being at risk of disease, sample size, generalizability) | ★ | - | - | - | - |
| Selection of the non-exposed cohort? | Drawn from same community as exposed cohort | ★ | ★ | - | - | - |
| Ascertainment of exposure | Depression Diagnosis in health records, structured interview | ★ | - | ★ | - | ★ |
| Demonstration that outcome of interest was not present at start of study | No inflammatory disease | ★ | - | ★ | - | ★ |
| **Comparability** | | | | | | |
| Comparability of cohorts on the basis of the design or analysis | Study controls for body mass index | ★ | - | ★ | - | ★ |
| Study controls for additional risk factors? | Study controls for hypertensive and/or diabetes disorders | - | - | ★ | - | ★ |
| **Outcome** | | | | | | |
| Assessment of outcome | Independent blind assessment of inflammation | ★ | ★ | ★ | ★ | ★ |
| Was follow-up long enough for outcomes to occur | At least two inflammation asessments at different gestational stages | ★ | ★ | - | - | - |
| Adequacy of follow up of cohorts | Complete follow-up, or subjects lost to follow-up unlikely to introduce bias (>60% follow up, or description provided of those lost) | ★ | ★ | ★ | ★ | ★ |
| **Overall quality score (maximum=9)** | | **8** | **4** | **6** | **2** | **6** |
| \* Studies of Haeri, et al.,, 2013, and Osborne et al., 2018 were classified by the authors as case-control. However, after assessment, we judged that the studies should not be assessed as a classical case-control studies, but should be assessed using the criteria of cohort studies. Haeri, Baker, and Ruano, 2013. compared women with major depressive disorder diagnosis at any time during pregnancy with controls without clinically relevant depressive symtpoms in early pregnancy (control group was not assessed for depression at any later stage during pregnancy). Moreover, in this study inflammatory biomarkers were assessed before, at the time of or after the case-control status definition. In the Osborne et al., 2018, the cases comprised 49 women with major depressive disorder. However, 18 of the cases did not meet the diagnostic criteria for major depressive disorder when assessed during pregnancy. Note. Quality of evidence according to the NOS-criteria for cohort studies (Wells *et al.*, 2014a, b) were reviewed independently by Rachel Robinson and by Marius Lahti-Pulkkinen and Polina Girchenko. In cases of disagreement, they were discussed and agreed upon by consensus. | | | | | | |

**References**

**Azar, R. & Mercer, D.** (2013). Mild depressive symptoms are associated with elevated C-reactive protein and proinflammatory cytokine levels during early to midgestation: a prospective pilot study. *Journal of Women's Health,* **22**, 385-389.

**Blackmore, E. R., Moynihan, J. A., Rubinow, D. R., Pressman, E. K., Gilchrist, M. & O'Connor, T. G.** (2011). Psychiatric symptoms and proinflammatory cytokines in pregnancy. *Psychosomatic Medicine,* **73**, 656-663.

**Gustafsson, H. C., Sullivan, E. L., Nousen, E. K., Sullivan, C. A., Huang, E., Rincon, M., Nigg, J. T. & Loftis, J. M.** (2018). Maternal prenatal depression predicts infant negative affect via maternal inflammatory cytokine levels. *Brain, Behavior, and Immunity,* **73**, 470-481.

**Osborne, S., Biaggi, A., Chua, T. E., Du Preez, A., Hazelgrove, K., Nikkheslat, N., Previti, G., Zunszain, P. A., Conroy, S. & Pariante, C. M.** (2018). Antenatal depression programs cortisol stress reactivity in offspring through increased maternal inflammation and cortisol in pregnancy: The Psychiatry Research and Motherhood - Depression (PRAM-D) Study. *Psychoneuroendocrinology,* **98,** 211-236.

**Haeri, S., Baker, A. M. & Ruano, R.** (2013). Do pregnant women with depression have a pro-inflammatory profile? Journal of Obstetrics and Gynaecology Research, **39**, 948-952.

**Wells, G., Shea, B., O’Connell, D., Peterson, J., Welch, V., Losos, M. & Tugwell, P.** (2014a). Newcastle-Ottawa quality assessment form for cohort studies. E17–E18. <http://www.ncbi.nlm.nih.gov/books/NBK115843/bin/appe-fm3.pdf>

**Wells, G., Shea, B., O’Connell, D., Peterson, J., Welch, V., Losos, M. & Tugwell, P.** (2014b). The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses. <http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp>.