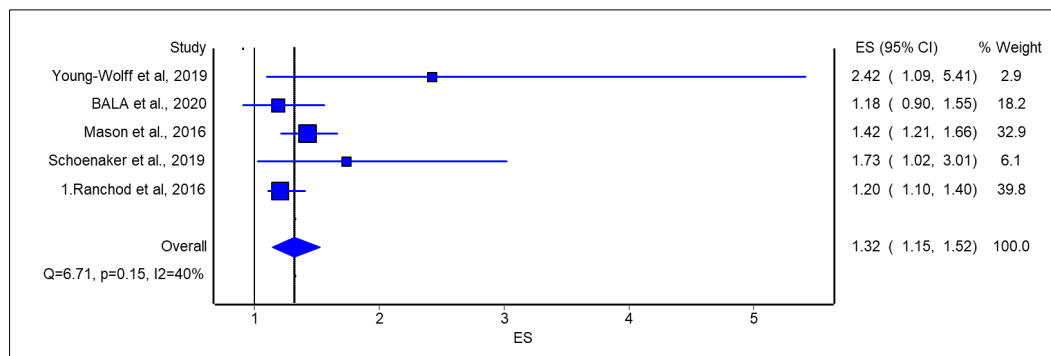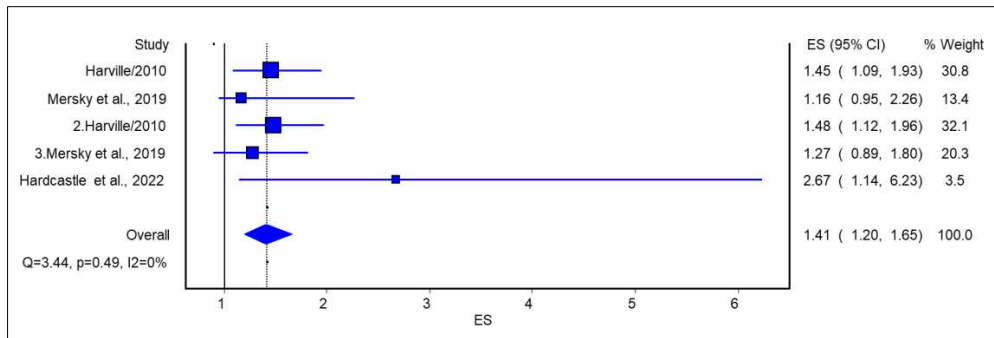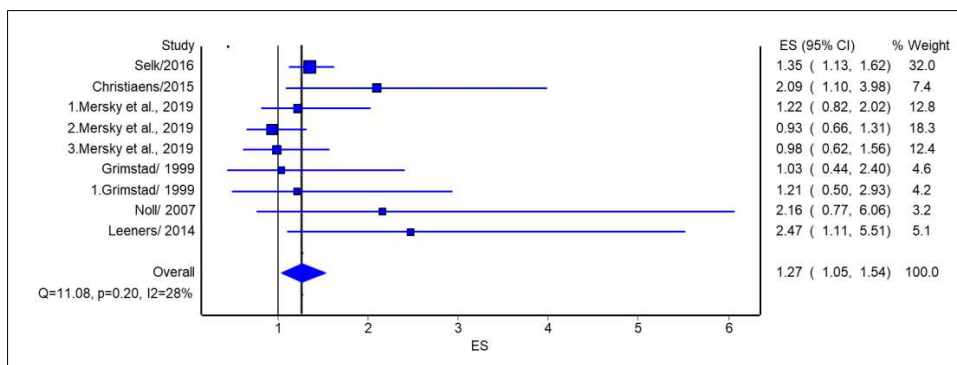**Supplementary figure -1.1: Association of ≥ 4 ACEs and adverse pregnancy complications**



**Supplementary figure -1.2: Association of <4 ACEs and adverse pregnancy complications**

**Supplementary figure -2.1: Association of ≥ 4 ACEs and adverse pregnancy outcomes**



**Supplementary figure -2.2: Association of <4 ACEs and adverse pregnancy outcomes**

**Supplementary Table S1: Search details**

| | # | |
|---|---|---|
| **ACES** | 1 | 'Adverse childhood experiences'/exp OR 'adverse childhood experiences' |
| | 2 | 'Childhood adversities' |
| | 3 | 'Childhood abuse' |
| | 4 | 'Childhood maltreatment' |
| | 5 | 'Child trauma' |
| | 6 | 'Adverse childhood events' |
| | 7 | 'Childhood sexual abuse' |
| | 8 | 'Childhood physical abuse' |
| | 9 | 'Childhood mental abuse' |
| | 10 | 'Childhood trauma' |
| | 11 | 'Childhood violence' |
| | 12 | 'Childhood hardship' |
| | 13 | 'Childhood suffering' |
| | 14 | 'Childhood stress' |
| | 15 | #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 |
| **Pregnancy complications** | 16 | 'Pregnancy complications' |
| | 17 | 'depression' |
| | 18 | 'anxiety' |
| | 19 | 'Prenatal depression' |
| | 20 | 'Depressive symptoms' |
| | 21 | 'Antenatal depression' |
| | 22 | 'Mental health problem' |
| | 23 | 'Gestational diabetes mellitus' |
| | 24 | 'GDM' |
| | 25 | 'Hypertensive disorder of pregnancy' |
| | 26 | 'HDP' |

| | 27 | 'preeclampsia' |
|---|---|---|
| | 28 | 'Maternal body weight' |
| | 29 | 'Excess weight gain' |
| **Pregnancy outcomes** | 30 | 'Abnormal fetal growth' |
| | 31 | 'Intrauterine growth restriction' |
| | 32 | 'Low birth weight' |
| | 33 | 'LBW' |
| | 34 | 'IUGR' |
| | 35 | stillbirth |
| | 36 | 'Small of gestational age' |
| | 37 | 'Preterm birth' |
| | 38 | #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 |
| | 39 | #15 AND #38 |

**Supplementary Table S2: Quality assessment tools**

| Study Quality Evaluation | | |
|---|---|---|
| **Item** | **Question** | **Coding** |
| 1. Question | Was the research question or objective in this paper clearly stated? | 0-No 1-Yes |
| 2. Population | Was the study population clearly specified and defined? | 0-No 1-Yes |
| 3. Participation | Was the participation rate of eligible persons at least 50%? | 0-No 1-Yes |
| 4. Inclusion/Exclusion Criteria | Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants? | 0-No 1-Yes |
| 5. Sample Size | Was a sample size justification, power description, or variance and effect estimates provided? | 0-No 1-Yes |
| 6. | For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured? | 0-No 1-Yes |
| 7. Timeframe | Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed? | 0-No 1-Yes |
| 8. Levels of Exposure | For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)? | 0-No 1-Yes |
| 9. Independent Variable | Were the exposure measures (independent variables) clearly defined, valid, reliable, and | 0-No 1-Yes |

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| | | |
|---|---|---|
| | implemented consistently across all study participants? | |
| 10. Longitudinal/Repeated ACEs | Was the exposure(s) assessed more than once over time? | 0-No<br>1-Yes |
| 11. Dependent Variable | Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants? | 0-No<br>1-Yes |
| 12. Objectivity independent variable | Does the study use objective reports or multiple-methods to measure maternal ACEs?<br><br>Objective measure = child abuse reports<br><br>Multiple methods = self-report and corroborated reports. | 0-self report<br>1-objective measure/mult iple methods |
| 13. Objective dependent variables | Does the study use different reporters or multiple-methods to measure maternal health/mental health outcomes?<br><br>Objective measure = hospital report, diagnosis by physician, measurement by health care professional | 0-self report<br>1-objective measure/mult iple methods |
| 14. Lost to Follow-Up | Was loss to follow-up after baseline 20% or less? | 0-No<br>1-Yes |
| 15. Confounder | Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)? | 0-No<br>1-Yes |
| **Total** | A sum of all items was calculated to obtain a total quality score (0-15). | |

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**Supplementary Table S3: Quality of the study**

| SI# | First Author/Pub Date | Question | Population | Participation | Inclusion/Exclusion Criteria | Sample Size | Exposures | Timeframe | Levels of Exposure | Independent Variable | Longitudinal/Repeated ACEs | Dependent Variable | Objectivity independent variable | Objective dependent variable | Lost to Follow-up | Confounder | Overall | Quality score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Christiaens/2015 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 10 | Moderate |
| 2 | Grimstad/ 1999 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 9 | Low |
| 3 | Hardcastle et al., 2022 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 14 | High |
| 4 | Noll/ 2007 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 7 | Low |
| 5 | Leeners/ 2014 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | Moderate |
| 6 | Selk/2016 | 1 | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 13 | High |
| 7 | Harville/2010 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 12 | Moderate |
| 8 | Versteegen et al., 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 14 | High |
| 9 | Stanhope et al., 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 14 | High |
| 10 | Schoenaker et al., 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 14 | High |
| 11 | Miller et al., 2017 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 9 | Low |
| 12 | Mersky et al., 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 13 | High |
| 13 | Mason et al., 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 13 | High |
| 14 | Cammack et al., 2018 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 13 | High |
| 15 | BALA et al., 2020 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 12 | Moderate |
| 16 | Ben Salah et al, 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 13 | High |
| 17 | Bhengu, 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 12 | Moderate |
| 18 | Gillespie et al. (2017) | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 10 | Moderate |
| 19 | Leeners et al, 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 15 | High |
| 20 | McDonnell and Val et al, 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 14 | High |
| 21 | Shaikh et al., 2019 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 11 | Moderate |
| 22 | Smith et al., 2016 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 10 | Moderate |
| 23 | Ranchod et al, 2016 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 8 | Low |
| 24 | Appleton et al, 2019 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 9 | Low |
| 25 | Fredriksen et al, 2017 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 8 | Low |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | Hantsoo et al,2019 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | Low |
| 27 | Letourneau et al, 2019 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 10 | Moderate |
| 28 | Howell1,2020 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 12 | Moderate |
| 29 | Narayan et al, 2018 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 9 | Low |
| 30 | Racine et al, 2020 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 8 | Low |
| 31 | Young-Wolff et al, 2019 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 11 | Moderate |
| 32 | Barrios et al, 2015 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 11 | Moderate |