Supplement 7. Risk of bias (study-level)

Tools used for the risk of bias assessment

| ***Bias domain*** | ***Question to consider*** |
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| **Selection bias** | *‘Was selection into the study unrelated to both the exposure and outcomes?’* (Dekker et al. 2019 p.4). ROBIN-I |
| *‘Were the reasons for missing data unrelated to the exposure and outcomes?’* (Dekker et al. 2019). ROBIN-I |
| *‘Were the controls sampled from the population that gave rise to the cases?’* (Dekker et al. 2019). WGIB; AXIS. |
| **Missing data bias** | *‘Were the reasons for the missing data related to the predictor being assessed?’* (Dekker et al. 2019). ROBIN-I; AXIS; WGIB |
| *‘Were the reasons for missing data related to case/exposure status?’1* (Dekker et al. 2019). ROBIN-I |
| **Confounding**  **Time-varying confounding**  **(if applicable)** | ‘*What are the important variables that might confound the effect of the exposure?*’(Dekker et al. 2019, p4). Included in ROBIN-I, WGIB, AXIS  Is there evidence that controlling for this variable was unnecessary? (ROBIN-I) |
| *We’re confounding variables measured at appropriate points in time*. (Dekker et al. 2019). Included in ROBIN-I |
| *Did the authors use an appropriate analysis method or design that adjusted for all of the important confounding variables?* (Dekker et al. 2019 p4). Included in ROBIN-I  *Was the confounding variable measured using appropriate measurement?* (ROBIN-I)  *Were time-varying confounding variables assessed?*[[1]](#footnote-1) (ROBIN-I)  *Was the follow-up/time lag appropriate (and balanced across groups1)?* (WGIB)  *Any attempt to balance the allocation between the groups or match groups (e.g., through stratification, matching, propensity score?*[[2]](#footnote-2) (WGIB) |
| **Information bias/Measurement bias** | *‘Were outcome assessors unaware of the exposure status of study participants?’* (Dekker et al. 2019). ROBIN-I; AXIS; WGIB |
| *Were the methods of outcome assessment comparable across exposure groups?* (Dekker et al. 2019). ROBIN-I. |
| *‘Was the definition of case status applied without knowledge of exposure status?’* (Dekker et al. 2019). ROBIN-I |
| *‘Was data collection on exposure status unaffected by knowledge of the outcome or risk of the outcome?’*(Dekker et al. 2019; and ROBIN-I) |
| **Results summary bias/Statistical analysis** | Was the sample size justified? (AXIS)  Were results adequately described? (AXIS; WGIB)  Were the precision and significance estimates clear (AXIS; WGIB)  Were results internally consistent (AXIS; WGIB)? |
| **Selective reporting** | Were all outcomes reported? Is there evidence that not all outcomes were reported (ROBIN-I; AXIS; WGIB) |

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1. Cohort studies [↑](#footnote-ref-1)
2. Case-control studies [↑](#footnote-ref-2)