Appendix 3. Quality assessment tool for case-control studies*

*Modified from the Study Assessment Tool of the National Heart, Lung and Blood Institute[13]

## General Information

| | |
|---|---|
| **Date form completed** (dd/mm/yyyy) | |
| **Initial of reviewer completing the Q&A** | |
| **Reference citation** | |

## Summary of risk of bias

| Risk of bias Domain | Definition | Yes/No |
|---|---|---|
| Research question & study population | Can we be confident that the researchers had a well-defined study goal and population? | |
| Control group selection | Can we be confident that the control group is a representative sample of the general population? | |
| Case definition | Can we be confident that the case definition did not lead to misclassification on the target condition? | |
| Assessment of exposure | Can we be confident in the conduct and/or interpretation of the biomarker results? | |
| Confounding | Can we be confident that the authors accounted for other relevant factors that could potentially explain the association between exposure and outcome. | |

Overall quality Rating (Poor/Fair/Good):_____

| Criteria | Yes/No/NA/Unclear (cd, nr) | Text location |
|---|---|---|
| Domain 1: Research question & study population | | |
| 1. Was the research question or objective in this paper clearly stated and appropriate? | | |
| 2. Was the study population clearly specified and defined? | | |
| 3. Did the authors include a sample size justification? | | |
| Domain 1 Notes: | | |
| Domain 2: Control group selection | | |
| 4. Were controls selected or recruited from the same or similar population that gave rise to the cases (including the same timeframe)? | | |
| 5. If less than 100 percent of eligible cases and/or controls were selected for the study, were the cases and/or controls randomly selected from those eligible? | | |
| 6. Was there use of concurrent controls? | | |
| Domain 2 Notes: | | |
| Domain 3: Case definition | | |
| 7. Were the definitions, inclusion and exclusion criteria, algorithms or processes used to identify or select cases and controls valid, reliable, and implemented consistently across all study participants? | | |
| 8. Were the cases clearly defined and differentiated from controls? | | |
| Domain 3 Notes: | | |
| Domain 4: Assessment of exposure/biomarker(s) | | |

| | | |
|---|---|---|
| 9. Where possible, were the investigators able to confirm that the biomarker exposure occurred prior to the development of the condition or event that defined a participant as a case? | | |
| 10a. Were the biomarker measurements clearly defined? | | |
| 10b. Were biomarker measurements valid? | | |
| 10c. Were biomarker measurements reliable? | | |
| 10d. Were the biomarker measurements implemented consistently across all study participants? (including the same time period) | | |
| 11. Were the assessors of exposure blinded to the case or control status of participants? | | |
| Domain 4 Notes: | | |
| Domain 5: Confounding | | |
| 12. Were key potential confounding variables measured and adjusted statistically in the analyses? If matching was used, did the investigators account for matching during study analysis? | | |
| Domain 5 Notes: | | |