

# STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation	
<b>Title and abstract</b>	1	✓ (a) Indicate the study's design with a commonly used term in the title or the abstract ✓ (b) Provide in the abstract an informative and balanced summary of what was done and what was found	Line 36 Line 34-57
<b>Introduction</b>			
Background/rationale	2	✓ Explain the scientific background and rationale for the investigation being reported	Line 95-119
Objectives	3	✓ State specific objectives, including any prespecified hypotheses	Line 119-121
<b>Methods</b>			
Study design	4	✓ Present key elements of study design early in the paper	Line 125
Setting	5	✓ Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Line 140-164
Participants	6	✓ (a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants (b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	Line 126-128 Line 126-128 Line 126-128 N/A Line 126-128
Variables	7	✓ Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Line 161-174
Data sources/ measurement	8*	✓ For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Line 161-164, Line 171-172 and Line 379-384
Bias	9	✓ Describe any efforts to address potential sources of bias	Line 206-208
Study size	10	Explain how the study size was arrived at	N/A
Quantitative variables	11	✓ Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Line 179-182
Statistical methods	12	✓ (a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy (e) Describe any sensitivity analyses	Line 179-184 N/A N/A N/A N/A N/A

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<b>Results</b>	
Participants	13* ✓ (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed Line 188 (b) Give reasons for non-participation at each stage N/A (c) Consider use of a flow diagram N/A
Descriptive data	14* ✓ (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders Line 188-191 (b) Indicate number of participants with missing data for each variable of interest N/A (c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount) N/A
Outcome data	15* <i>Cohort study</i> —Report numbers of outcome events or summary measures over time N/A <i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure <i>Cross-sectional study</i> —Report numbers of outcome events or summary measures
Main results	16 ✓ (a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included Line 214-237 ✓ (b) Report category boundaries when continuous variables were categorized Line 214-237 (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period N/A
Other analyses	17 ✓ Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses Line 230-232
<b>Discussion</b>	
Key results	18 ✓ Summarise key results with reference to study objectives Line 240-249
Limitations	19 ✓ Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias Line 279-281, 310-311, 323-326, 340-342
Interpretation	20 ✓ Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence Line 366-374
Generalisability	21 ✓ Discuss the generalisability (external validity) of the study results Line 294-297
<b>Other information</b>	
Funding	22 Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based N/A

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).



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