

STROBE Statement—Checklist of items that should be included in reports of *case-control studies*

Item No	Recommendation	Page No
Title and abstract	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	1 3-4
Introduction		
Background/rationale	2 ✓ Explain the scientific background and rationale for the investigation being reported	5-6
Objectives	3 ✓ State specific objectives, including any prespecified hypotheses	7
Methods		
Study design	4 ✓ Present key elements of study design early in the paper	8-9
Setting	5 ✓ Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	8
Participants	6 ✓(a) 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 ✓(b) For matched studies, give matching criteria and the number of controls per case	9 9
Variables	7 ✓ Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7-10
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	8-9
Bias	9 ✓ Describe any efforts to address potential sources of bias	10-11
Study size	10 ✓ Explain how the study size was arrived at	Figure 1
Quantitative variables	11 ✓ Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	10-11 Table 1
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) If applicable, explain how matching of cases and controls was addressed ✓(e) Describe any sensitivity analyses	9-11 10-11 11 9-10
Results		
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 ✓(b) Give reasons for non-participation at each stage ✓(c) Consider use of a flow diagram	12 Figure 1 Figure 1
Descriptive data	14* ✓(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest	12 Figure 2
Outcome data	15* ✓ Report numbers in each exposure category, or summary measures of exposure	
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 (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Table 2-3

Other analyses	17	✓ Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Table 2-3
Discussion			
Key results	18	✓ Summarise key results with reference to study objectives	15
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	19-20
Interpretation	20	✓ Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	15-17
Generalisability	21	✓ Discuss the generalisability (external validity) of the study results	19-20
Other information			
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	21

*Give information separately for cases and controls.

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 <http://www.strobe-statement.org>.