

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

	Item No	Recommendation
<b>Title and abstract</b>	1	<p><b>(a) On the line 1 of the first page.</b> Indicate the study's design with a commonly used term in the title or the abstract</p> <p><b>(b) On the line 11 of the first page.</b> Provide in the abstract an informative and balanced summary of what was done and what was found</p>
<b>Introduction</b>		
Background/rationale	2	<p><b>On the line 31 of the first page.</b> Explain the scientific background and rationale for the investigation being reported</p>
Objectives	3	<p><b>On the line 9-11 of the second page.</b> State specific objectives, including any prespecified hypotheses</p>
<b>Methods</b>		
Study design	4	<p><b>On the line 22 of the second page.</b> Present key elements of study design early in the paper</p>
Setting	5	<p><b>On the line 22-28 of the second page and Figure 1.</b> Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection</p>
Participants	6	<p><b>(a) On the line 26-27 of the second page.</b>  <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</p> <p><b>(b) Figure 1</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</p>
Variables	7	<p><b>On the line 31-43 of the second page.</b> Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable</p>
Data sources/ measurement	8*	<p><b>On the line 16-24 of the third page.</b> 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</p>
Bias	9	<p><b>On the line 22-24 of the third page.</b> Describe any efforts to address potential sources of bias</p>
Study size	10	<p><b>On the line 24-28 of the third page and Figure 1.</b> Explain how the study size was arrived at</p>
Quantitative variables	11	<p><b>On the line 17 of the third page.</b> Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why</p>

**(a) On the line 18-24 of the third page.**

Describe all statistical methods, including those used to control for confounding

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**(b) There is not mentioned in this article.**

Describe any methods used to examine subgroups and interactions

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**(c) There is not mentioned in this article.**

Explain how missing data were addressed

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**(d) On the line 24-26 of the second page**

*Cohort study*—If applicable, explain how loss to follow-up was addressed

*Case-control study*—If applicable, explain how matching of cases and controls was addressed

*Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy

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**(e) There is not mentioned in this article.**

Describe any sensitivity analyses

Continued on next page

<b>Results</b>		
Participants	13*	<p>(a) <b>Figure 1</b> 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</p> <hr/> <p>(b) <b>Figure 1</b> Give reasons for non-participation at each stage</p> <hr/> <p>(c) <b>Figure 1</b> Consider use of a flow diagram</p>
Descriptive data	14*	<p>(a) <b>On the line 26-32 of the third page and Table 1.</b> Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders</p> <hr/> <p>(b) <b>On the line 29 of the second page and Figure 1.</b> Indicate number of participants with missing data for each variable of interest <i>Cohort study</i>—Summarise follow-up time (eg, average and total amount)</p>
Outcome data	15*	<p><i>Cohort study</i>—Report numbers of outcome events or summary measures over time <i>Case-control study</i>—Report numbers in each exposure category, or summary measures of exposure</p> <hr/> <p><b>On the line 34-42 of the third page and line 2-10 of the fourth page and Table 1, Table 2, Table 3.</b> <i>Cross-sectional study</i>—Report numbers of outcome events or summary measures</p>
Main results	16	<p>(a) <b>There is not mentioned in this article.</b> 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</p> <hr/> <p>(b) <b>Table 1 and Table 2.</b> Report category boundaries when continuous variables were categorized</p> <hr/> <p>(c) <b>There is not mentioned in this article.</b> If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period</p>
Other analyses	17	<p><b>On the line 2-10 of the fourth page.</b> Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses</p>
<b>Discussion</b>		
Key results	18	<p><b>On the line 10-16 of the sixth page.</b> Summarise key results with reference to study objectives</p>
Limitations	19	<p><b>On the line 43-44 of the fifth page and 1-9 line of the sixth page.</b> Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias</p>
Interpretation	20	<p><b>On the line 12-43 of the fourth page, 1-35 line of the fifth page.</b> Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence</p>
Generalisability	21	<p><b>On the line 36-42 of the fifth page.</b> Discuss the generalisability (external validity) of the study results</p>
<b>Other information</b>		
Funding	22	<p><b>On the line 30-33 of the sixth page.</b></p>

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

\*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).