

STROBE Checklist — 22 items for observational studies

Cohort · Case-control · Cross-sectional. Eighteen items are common to all three designs; four (items 6, 12, 14, 15) are design-specific.

Use this as a pre-submission check: confirm each item is reported somewhere in your manuscript. STROBE does not prescribe a location or order — only that each item is addressed.

TITLE AND ABSTRACT

- ☐ **1 Title and abstract** — Name the study design (cohort, case-control, or cross-sectional) in the title or abstract, and give a balanced summary of what was done and found.

INTRODUCTION

- ☐ **2 Background / rationale** — Explain the scientific background and rationale for the study.
- ☐ **3 Objectives** — State specific objectives, including any pre-specified hypotheses.

METHODS

- ☐ **4 Study design** — Present key elements of the study design early in the paper.
- ☐ **5 Setting** — Give the setting, locations, and relevant dates (recruitment, exposure, follow-up, data collection).
- ☐ **6 Participants** (*design-specific*) — Give eligibility criteria and how participants were selected. Differs by design — see the box below.
- ☐ **7 Variables** — Clearly define all outcomes, exposures, predictors, confounders, and effect modifiers.
- ☐ **8 Data sources / measurement** — For each variable, give the data source and method of assessment; note comparability across groups.
- ☐ **9 Bias** — Describe efforts to address potential sources of bias.
- ☐ **10 Study size** — Explain how the study size was arrived at.
- ☐ **11 Quantitative variables** — Explain how quantitative variables were handled, and any groupings chosen and why.
- ☐ **12 Statistical methods** (*design-specific*) — Describe all methods, incl. confounding control, subgroups/interactions, missing data, and sensitivity analyses. One sub-item differs by design — see box.

RESULTS

- ☐ **13 Participants** — Report numbers at each stage and reasons for non-participation; consider a flow diagram.
- ☐ **14 Descriptive data** (*design-specific*) — Give participant characteristics and missing-data counts per variable. Differs by design — see box.
- ☐ **15 Outcome data** (*design-specific*) — Report outcome events or summary measures. Differs by design — see box.
- ☐ **16 Main results** — Give unadjusted and confounder-adjusted estimates with precision (e.g., 95% CI); state which confounders and why.
- ☐ **17 Other analyses** — Report subgroup, interaction, and sensitivity analyses; distinguish pre-specified from exploratory.

DISCUSSION

- ☐ **18 Key results** — Summarise key results with reference to the study objectives.
- ☐ **19 Limitations** — Discuss limitations and both the direction and magnitude of any potential bias.
- ☐ **20 Interpretation** — Give a cautious overall interpretation considering limitations and other evidence.
- ☐ **21 Generalisability** — Discuss the generalisability (external validity) of the results.

OTHER INFORMATION

☐ **22 Funding** — State the source of funding and the role of the funders.

THE FOUR DESIGN-SPECIFIC ITEMS

Item	Cohort	Case-control	Cross-sectional
6 • Participants	How exposed/unexposed groups were selected; methods of follow-up. Matched: matching criteria + numbers.	How cases were ascertained and controls selected, with rationale. Matched: matching criteria + controls per case.	Eligibility and the sources/methods of participant selection.
12(d) • Statistical methods	How loss to follow-up was addressed.	How matching of cases and controls was addressed.	Analytical methods accounting for sampling strategy.
14 • Descriptive data	Characteristics + missing-data counts, plus follow-up time.	Characteristics + missing-data counts.	Characteristics + missing-data counts.
15 • Outcome data	Numbers of outcome events or summary measures over time.	Numbers in each exposure category, or summary measures of exposure.	Numbers of outcome events or summary measures.

STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) is maintained by the STROBE Initiative (strobe-statement.org) and listed by the EQUATOR Network. Item text here is paraphrased for explanation; for the full official wording and the rationale behind each item, see the official checklist and the Explanation & Elaboration paper (PLOS Medicine). Annotated reference by PeerReviewAI — peerreviewai.org/guides/strobe-checklist.