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

Section/item	Item No	Recommendation	Reported on Page Number/Line Number	Reported on Section/Paragraph
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	P. 1/L. 2-5	Title/Paragraph 1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	P. 5 L.76-P.6 L.88	Abstract/Paragraph 4-5
Introduction				
Background/ rationale	2	Explain the scientific background and rationale for the investigation being reported	P.7 L.90-105	Introduction/Paragraph 6
Objectives	3	State specific objectives, including any prespecified hypotheses	P.7 L.105-110	Introduction/Paragraph 6
Methods				
Study design	4	Present key elements of study design early in the paper	P.8 L.114-117	Methods/Paragraph 7
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P.8 L.114-117	Methods/Paragraph 7
Participants	6	(a) ***Cohort study***—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up ***Case-control study***—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 ***Cross-sectional study***—Give the eligibility criteria, and the sources and methods of selection of participants	P.8 L.117-129	Methods/Paragraph 7
		(b) ***Cohort study***—For matched studies, give matching criteria and number of exposed and unexposed ***Case-control study***—For matched studies, give matching criteria and the number of controls per case		
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P.9 L.133-143	Methods/Paragraph 8
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	P.9 L.143-P.10 L.157	Methods/Paragraph 9
Bias	9	Describe any efforts to address potential sources of bias	Not applicable	
Study size	10	Explain how the study size was arrived at	P.8 L.114-116	Methods/Paragraph 7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	P.10 L.158-P.11 L.178	Methods/Paragraph 10-11

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	P.10 L.159-P.11 L.178	Methods/Paragraph 10-11
		(b) Describe any methods used to examine subgroups and interactions	not applicable	
		(c) Explain how missing data were addressed	Not applicable	
		(d) ***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	not applicable	
		(e) Describe any sensitivity analyses	P.11 L.169-174	Methods/Paragraph 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	P.11 L.193-194	Results/Paragraph 13
		(b) Give reasons for non-participation at each stage		Figure 1
		(c) Consider use of a flow diagram		Figure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	P.11 L.182-191	Results/Paragraph 12
		(b) Indicate number of participants with missing data for each variable of interest	not applicable	
		(c) ***Cohort study***—Summarise follow-up time (eg, average and total amount)	P.11 L.187	Results/Paragraph 12
Outcome data	15*	***Cohort study***—Report numbers of outcome events or summary measures over time	P.12 L.204-216	Results/Paragraph 14
		Case-control study—Report numbers in each exposure category, or summary measures of exposure		
		Cross-sectional study—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	P.12 L.217-P.13 L.241	Results/Paragraph 15-17
		(b) Report category boundaries when continuous variables were categorized	not applicable	
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	not applicable	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	P.11 L.193-P.12 L.203	Results/Paragraph 13
Discussion				
Key results	18	Summarise key results with reference to study objectives	P.14 L.244-246	Discussion/Paragraph 18
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	P.15 L.272-274	Discussion/Paragraph 19

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	P.14 L.247-P.15 L.269	Discussion/Paragraph 18
Generalisability	21	Discuss the generalisability (external validity) of the study results	P.15 L.277-281	Conclusion/Paragraph 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	P.17 L.306-307	Funding

*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.