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	Pages 2/line 47	abstract Background
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	Pages2/line 48-65	method and results
Introduction				
Background/ rationale	2	Explain the scientific background and rationale for the investigation being reported	Pages 3./lines 84-89	Introduction/Paragraph1
Objectives	3	State specific objectives, including any prespecified hypotheses	Pages 3./lines 91-94	Introduction/Paragraph2
Methods				
Study design	4	Present key elements of study design early in the paper	Pages 3./lines 91-94	Paragraph2
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Pages 3./lines 97-125	Methods/Paragraph 3,4
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	Pages 3/lines 98-113	Methods/Paragraph 3
		(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	N/A this is a cross-section study	N/A this is a cross-section study
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Pages 4/lines 116-125	Methods/Paragraph 4
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	Pages 4/lines 116-125	Methods/Paragraph 4
Bias	9	Describe any efforts to address potential sources of bias	Pages 3/lines 98-99	Methods/Paragraph 3
Study size	10	Explain how the study size was arrived at	Pages 3/lines 98-99	Methods/Paragraph 3
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Pages 4/lines 128--131	Statistical analysis/Paragraph 5

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	Pages 4,5/lines	Statistical
		(b) Describe any methods used to examine subgroups and interactions	Pages 5/lines 129--133	Statistical
		(c) Explain how missing data were addressed	no missing data	no missing data
		(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	Pages 5/lines 133--135	Statistical analysis/Paragraph 5
		(e) Describe any sensitivity analyses	no sensitivity analyses	no sensitivity analyses
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	Pages 5/lines 145-147	Results/Paragraph 6
		(b) Give reasons for non-participation at each stage	no non-participation	no non-participation
		(c) Consider use of a flow diagram	not necessary	not necessary
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Pages 5/lines 149-163	Results/Paragraph 7.8
		(b) Indicate number of participants with missing data for each variable of interest	no missing data	no missing data
		(c) ***Cohort study***—Summarise follow-up time (eg, average and total amount)	not Cohort study	not Cohort study
Outcome data	15*	***Cohort study***—Report numbers of outcome events or summary measures over time	not Cohort study	not Cohort study
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	not Case-control study	not Case-control study
		Cross-sectional study—Report numbers of outcome events or summary measures	Pages 5/lines 142-143	Results/Paragraph 6
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	Pages 6.7/lines 194-199	Results/Paragraph 12
		(b) Report category boundaries when continuous variables were categorized	Pages 5/lines 145-147	Results/Paragraph 6
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Data is not enough to	Data is not enough to
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	no other analyses	no other analyses
Discussion				
Key results	18	Summarise key results with reference to study objectives	Pages 7/lines 202-213	Discussion/ Paragraph
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	Pages 9/lines 202-213	Discussion/ Paragraph 18

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Pages 7,8,9/lines 228-279	Discussion/ Paragraph 15-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	Pages 9/lines 271-274	Discussion/ Paragraph
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	Pages 9/lines 295-287	Acknowledgments/Paragraph 20

*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.

Article information: http://dx.doi.org/10.21037/atm-21-2282
*As the checklist was provided upon initial submission, the page number/line number reported may be changed due to copyediting and may not be referable in the published version. In this case, the section/paragraph may be used as an alternative reference.