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	None	None
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	Page 4/line 67-69	Abstract
Introduction				
Background/ rationale	2	Explain the scientific background and rationale for the investigation being reported	Page 4-5/line 76-91; Page 5/lines 92-93	Introduction/Paragraph 2; Introduction/Paragraph 3.
Objectives	3	State specific objectives, including any prespecified hypotheses	Page 4-5/line 76-91; Page 5/lines 92-93	Introduction/Paragraph 2; Introduction/Paragraph 3.
Methods				
Study design	4	Present key elements of study design early in the paper	Page 5/line 103-106; Page 6/line 111-114	Methods/subjects.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Page 5/line 103-105	Methods/subjects.
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	Page 5/lines 103-105; Page 5-6/lines 108-111; Page 6/lines 111-114.	Methods/subjects.
		(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	Page 5-6/lines 108-111; Page 6/lines 111-114.	Methods/subjects.
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	Page 7-8/line 151-173	Methods/Statistical analysis
Bias	9	Describe any efforts to address potential sources of bias	Page 6/line 114-120	Methods/subjects
Study size	10	Explain how the study size was arrived at	Refer to previous researches	Refer to previous researches
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Page 9/line 176-178.	Methods/Statistical analysis

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	Page 8/lines 167-173;Page 9/lines 176-180.	Methods/Statistical analysis
		(b) Describe any methods used to examine subgroups and interactions	Page 8/lines 167-173;Page 9/lines 176-180.	Methods/Statistical analysis
		(c) Explain how missing data were addressed	None	None
		(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	None	None
		(e) Describe any sensitivity analyses	None	None
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	Page 5/line 103-105	Methods/subjects
		(b) Give reasons for non-participation at each stage	None	None
		(c) Consider use of a flow diagram	None	None
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 1；Table 3	Table 1；Table 3
		(b) Indicate number of participants with missing data for each variable of interest	None	None
		(c) ***Cohort study***—Summarise follow-up time (eg, average and total amount)		
Outcome data	15*	***Cohort study***—Report numbers of outcome events or summary measures over time		
		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	None	None
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	None	None
		(b) Report category boundaries when continuous variables were categorized	None	None
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	None	None
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Page 9/lines 186-193; Page 10/lines 202-204; Page 10/lines 206-211; Page 10-11/lines 214-221;Page 11/lines 226-229; Page 11/lines 231-233;Page 11/lines 235-240;Page 11-12/lines 241-249; Page 12/lines 252-261;	Result/sociodemographic characteristics of the included subjects; Result/compositions of gut microbiota; Result/The association of gut microbiota and severity of asthma;Result/Differential gut microbiome profiles according to the level of

				total IgE(Paragraph 1-2);Result/Principal component analysis.
Discussion				
Key results	18	Summarise key results with reference to study objectives	Page 13-14/line 281-296; Page14-15/line 298-315; Page 15-16/lines 318-341; Page 16/lines 342-347; Page 17-18/lines 361-391; Page 18-19/lines 392-398.	Discussion/Paragraph 4-9.
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	Page 19/line 399-407	Discussion/Paragraph 10

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Page 19/line 408-411	Discussion/Paragraph 11
Generalisability	21	Discuss the generalisability (external validity) of the study results	Page 19/line 414-416	Conclusion
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	Page 20/line 426-430	Acknowledgements/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.

Article information: https://dx.doi.org/10.21037/jtd-20-2189.
*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.