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

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|  | Item No. | Recommendation | Page  No. | Relevant text from manuscript |
| **Title and abstract** | 1 | (*a*) Indicate the study’s design with a commonly used term in the title or the abstract | 1 | Changes in cardiovascular health status and the  risk of new-onset hypertension in Kailuan cohort study |
| (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | 3 | The Cardiovascular Health Score (CHS) was evaluated by the follow-ups of 2006-2007, 2008-2009, 2010-2011 and 2012-2013.  In conclusion, there was a strong inverse relationship between the incidence of new-onset hypertension and elevation of cardiovascular health metrics. |
| Introduction | | | |  |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 6 | Introduction Part, Paragraph 1 |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 6 and 7 | Introduction Part, Paragraph 2 |
| Methods | | | |  |
| Study design | 4 | Present key elements of study design early in the paper | 7 | Materials and Methods Part, Study Design and Participants |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 7 | Materials and Methods Part, Study Design and Participants |
| 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 | 7-10 | Materials and Methods Part, Study Design and Participants  Materials and Methods Part, Questionnaire Assessment, Blood pressure measurement and Laboratory assessments  Cardiovascular health scores  △CHS and New-onset hypertension events |
| (*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 |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | 7-10 | Materials and Methods Part, Study Design and Participants  Questionnaire Assessment, Blood pressure measurement and Laboratory assessments |
| 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 | *7-10* | Materials and Methods Part, Study Design and Participants  Questionnaire Assessment, Blood pressure measurement and Laboratory assessments |
| Bias | 9 | Describe any efforts to address potential sources of bias | 11 | Materials and Methods Part, Statistical Analyses |
| Study size | 10 | Explain how the study size was arrived at | 7 | Materials and Methods Part, Study Design and Participants |

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| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | N/A |  |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 11 | Materials and Methods Part, Statistical Analyses |
| (*b*) Describe any methods used to examine subgroups and interactions | 7-10 | Materials and Methods Part, Questionnaire Assessment, Blood pressure measurement and Laboratory assessments  Cardiovascular health scores  △CHS and New-onset hypertension events |
| (*c*) Explain how missing data were addressed | 7 | Materials and Methods Part, Study Design and Participants |
| (*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 | 7 | In our study, participants were excluded if they had any of the following characteristics during the 2006-2007 and 2008-2009 assessment |
| (*e*) Describe any sensitivity analyses | 13 | Results, Part, Sensitivity Analysis |
| 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 | 11 | Table 1 |
| (b) Give reasons for non-participation at each stage | 11 | Table 1 |
| (c) Consider use of a flow diagram | 11 | Table 1 |
| Descriptive data | 14\* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | 11 | Table 2 |
| (b) Indicate number of participants with missing data for each variable of interest | 11 | Table 1 and Table 2 |
| (c) *Cohort study*—Summarise follow-up time (eg, average and total amount) | 12 | Median follow-up of 3.79±0.96 years |
| Outcome data | 15\* | *Cohort study*—Report numbers of outcome events or summary measures over time | *11* | *We analyzed data from 19,381 participants which included 14,022 men (45.38 ± 11.77 years) and 5,359 women (43.85 ± 10.13 years) (Table 1)* |
| *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 | 11-14 | Risk of hypertension according to age, sex, baseline CHS scores and hs-CRP level |
| (*b*) Report category boundaries when continuous variables were categorized | N/A |  |
| (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period | N/A |  |

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| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses | 13 | Results Part, Sensitivity Analysis |
| Discussion | | | | |
| Key results | 18 | Summarise key results with reference to study objectives | 14-16 |  |
| 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 | 17 | Discussion Part, Paragraph 2 in Page 17 |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 14-17 |  |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 18 | Discussion Part, Paragraph 2 in Page 18 |
| 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 | 18 | Sources of 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.