

STROBE Statement—checklist of items that should be included in reports of observational studies Item No 52099		Recommendation
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract Autonomic laterality in caloric vestibular stimulation
(b) Provide in the abstract an informative and balanced summary of what was done and what was found Caloric stimulation of vestibular system is associated with autonomic response. The lateralization in the nervous system activities also involves the autonomic nervous system. This self-control study was conducted on 12 healthy male volunteers. Minimal ice water caloric stimulation of the right and left vestibular system had no effect on the cardiac sympathovagal balance according to HRV indices.		
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported Caloric test can induce an isolated and unilateral stimulation of vestibular system, at least partially and can be considered as a model for studying the concept of autonomic laterality. In contrast to microgravity methods or tilt test, caloric test can provide specific data because it does not cause secondary hemodynamic compensatory responses to orthostasis.
Objectives	3	State specific objectives, including any prespecified hypotheses To compare the effect of the right and left ear caloric test on the cardiac sympathovagal tone in healthy persons.
Methods		
Study design	4	Present key elements of study design early in the paper Self-control observational study
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection Data collection for every participant was completed in one session. The time of data collection for every participant was 30 minutes. All experiments were performed in the morning and between 10 and 12 AM.
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —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 <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants The participants were 12 healthy male volunteers. They were selected from University medical students. They underwent the general clinical and otoscopic examination. They had no drug history. None of them were smokers. They had no history of chronic illness or hospitalization in last year. All participants were informed about the study and assigned the informed consent. There was not any exclusion of the case from this study because of a closed ear canal, rigid ear wax, rupture of the tympanum, a history of Dizziness, vertigo, tinnitus, spontaneous nystagmus, deviation of the visual axis and eye movement disorders.
(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —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 The variables were the heart rate, systolic and diastolic arterial blood pressure, nystagmus onset and duration times, short-term HRV indices in time and frequency domains, respiratory frequency and amplitude. Exposure was 1-second-1-mililiter ice water caloric test in the two positions in both sides.
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 The variables were measured by PowerLab recorder 8/30 ML870 and Dual Bio/Stim ML 408, ADInstrument Ltd. Australia.
Bias	9	Describe any efforts to address potential sources of bias The pessimum position was considered as sham control.
Study size	10	Explain how the study size was arrived at According to following references : Brain Res Bull. 2000 Sep 1;53(1):17-23. J Laryngol Otol. 2010 Jun;124(6):616-22. $n = (z_{1-\alpha/2})^2 \sigma^2 / d^2$
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why There was no quantitative variable.

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding ONEWAY ANOVA TP HF HFnu LF LFnu LFHFr SDNN SDdeltaNN SDNNSDdeltaNNr RMSSD MaxNN MinNN RangeNN MeanNN NN50 HR Normals Ectopics SBP DBP RR RH NS ND BY Condition /MISSING ANALYSIS /POSTHOC=DUKEY ALPHA (0.05)
(b) Describe any methods used to examine subgroups and interactions		
(c) Explain how missing data were addressed		
(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy		
(e) Describe any 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 The participants were 12 healthy male volunteers. They were selected from University medical students. They underwent the general clinical and otoscopic examination. They had no drug history. None of them were smokers. They had no history of chronic illness or hospitalization in last year. All participants were informed about the study and assigned the informed consent. There was not any exclusion of the case from this study because of a closed ear canal, rigid ear wax, rupture of the tympanum, a history of Dizziness, vertigo, tinnitus, spontaneous nystagmus, deviation of the visual axis and eye movement disorders.
(b) Give reasons for non-participation at each stage		
(c) Consider use of a flow diagram		
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders The mean±SD of age, weight and hight of participants were 28.23±6.02 years, 80.21±16.45 kilograms and 179.57±6.93 centimetre respectively.
(b) Indicate number of participants with missing data for each variable of interest		
(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)		
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time <i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure <i>Cross-sectional study</i> —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
(b) Report category boundaries when continuous variables were categorized		
(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period		
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses
Discussion		
Key results	18	Summarise key results with reference to study objectives Negative results.
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 Small sample size, visual monitoring of nystagmus and using fixed level of caloric stimulation.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence Minimal ice water caloric stimulation of the right and left vestibular system had no effect on the cardiac sympathovagal balance according to HRV indices. It may be related to low intensity of stimulation.
Generalisability	21	Discuss the generalisability (external validity) of the study results
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 This study was supported by deputy of research and technology of Golestan University of Medical Sciences, award No. 961103.

*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.