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

	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	01	Genetic polymorphism of CYP3A4 associated with reduced response to statin therapy in Pakistani cardiac and dyslipidemic patients: A cross-sectional observational study
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	01	The study provides significant inter-racial genetic variations----- validation in larger population
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	02	Prior studies about allelic variants of *CYP3A4*---- Prior studies about allelic variants of *CYP3A4*
Objectives	3	State specific objectives, including any prespecified hypotheses	02	The study specifically aimed---- dyslipidemic patients receiving statin therapy.
Methods				
Study design	4	Present key elements of study design early in the paper	02	This hospital-based cross-sectional---- Lahore, Pakistan
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	02	The study was conducted from June 2024 to December 2024. All patients for the current study--- Mayo-Hospital Lahore
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 02 selection of participants		Inclusion criteria Exclusion criteria This hospital-based cross-sectional observational study was conducted at Mayo Hospital Lahore, Pakistan
		(*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	02	Serum lipid profile [total cholesterol (TC), triglycerides----- standard enzymatic colorimetric methods.
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		
Bias	9	Describe any efforts to address potential sources of bias		Not Applicable
Study size	10	Explain how the study size was arrived at	02	Sample size was determined----- availability of eligible patients

Continued on next page

Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	4	Descriptive statistics used to analyze the frequencies of gender, age and lipid profile.
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	04-05	Data were analyzed by SPSS software----- were considered statistically significant
		(*b*) Describe any methods used to examine subgroups and interactions	04	Pearson correlation test used to check the relationships between lipid profile parameters
		(*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	2	Cross sectional study
		(*e*) Describe any sensitivity analyses		Not Applicable
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	5	Among screened patients, 100 eligible participants fulfilling inclusion criteria were included in the final analysis.
		(b) Give reasons for non-participation at each stage		Not Applicable
		(c) Consider use of a flow diagram		Not Applicable
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	5	The age range of subjects was 18-65 years, with the mean age of male and female 40.94 ± 9.84 and 44.66 ± 11.97 respectively.
		(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)		
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		
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		Not Applicable
		(*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		Not Applicable
Continued on next	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	5-7	Pearson correlation and genotype

page Other analyses				association analyses
Discussion				
Key results	18	Summarise key results with reference to study objectives	5-6	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	10-11	Limitations and future direction
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	8-11	Discussion and Conclusion
Generalisability	21	Discuss the generalisability (external validity) of the study results	9-11	Discussion and 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	11	Not Applicable

*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.