Guidelines for reporting scientific studies

Lars Åke Persson MD PhD
lars.persson@lshtm.ac.uk
Dagu Scientific Writing Workshop, Gondar, Ethiopia, July 10-14, 2017
Guidelines for reporting scientific studies

- The medical and public health journals are gradually specifying how research with different designs should be reported.
- For some designs, i.e. trials, it is compulsory to report according to these guidelines in the good journals.
- Most likely the uniform requirements of reporting will be more and more emphasized.
Analysis, interpretation, and reporting of research of different designs

• Reporting of observational epidemiological studies: STROBE guidelines

• Reporting of qualitative studies: COREQ guidelines
  http://www.equator-network.org/reporting-guidelines/coreq/

• Reporting of trials: CONSORT guidelines
  http://www.consort-statement.org
From STROBE checklist for observational studies

- TITLE Indicate the study’s design with a commonly used term in title or abstract
- ABSTRACT Provide in the abstract an informative and balanced summary of what was done and what was found
- BACKGROUND Explain the scientific background and rationale for the investigation being reported
- OBJECTIVES State specific objectives including any pre-specified hypothesis
- STUDY DESIGN Present key elements of study design early in paper
- SETTING Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
- PARTICIPANTS Give the eligibility criteria, and the sources and methods of selection of participants
- VARIABLES Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
From STROBE checklist for observational studies

- **MEASUREMENTS** For each variable of interest, give sources of data and details, and methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group.
- **BIAS** Describe any efforts to address potential sources of bias.
- **STUDY SIZE** Explain how the study size was arrived at.
- **QUANTITATIVE VARIABLES** Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.
- **STATISTICAL METHODS** Describe all statistical methods, including those used to control for confounding. Describe any methods used to examine subgroups and interactions. Explain how missing data was addressed. If applicable, describe analytical methods taking account of sampling strategy.
From STROBE checklist for observational studies

- RESULTS - PARTICIPANTS Report number of individuals at each stage of study. Give reasons for non-participation. Consider a flow diagram
- RESULTS – DESCRIPTIVES Give characteristics of study participants, and information on exposures and potential confounders. Indicate number of participants with missing data for variables of interest
- RESULTS – OUTCOME Report numbers of outcome events or summary measures
- RESULTS – MAIN Give unadjusted estimates, and, if applicable, confounder-adjusted estimates and their precision (95% CI). Make clear which confounders were adjusted for and why. Report category boundaries when continuous variables were categorized
From STROBE checklist for observational studies

- **DISCUSSION – KEY RESULTS** Summarize key results with reference to study objectives
- **DISCUSSION – LIMITATIONS** Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
- **DISCUSSION – INTERPRETATION** Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analysis, results from similar studies, and other relevant evidence
- **DISCUSSION – GENERALISABILITY** Discuss the generalisability (external validity) of the study results
- **OTHER INFORMATION – FUNDING** Give the source of funding and the role of the funders for the present study
Writing research papers: study flow graph

Patients assessed for eligibility, N=698
- Excluded, n=250
  Did not fulfil inclusion criteria

Patients eligible, N=448
- Excluded, n=216
  Declined participation

Patients enrolled, N=232
- Excluded, n=8
  Incomplete data because records not linked

Patients included in analysis, N=224

Figure 1 Flow chart of included and excluded patients.

See STROBE and CONSORT guidelines