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Strobe for the international comparison of health determinants

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STROBE is a new set of recommendations for what should be included in an accurate and complete report of an observational study. Its objectives are summarized in Table 1. Like its predecessors: the Consolidated Standards of Reporting Trials (CONSORT, www.consortstatement.org) and the STAndards for the Reporting of Diagnostic accuracy studies (STARD, www.stard-statement.org), STROBE is the third chapter in the continuing saga that stemmed from frustrations of meta-analysts with the heterogeneity and incompleteness of study reports for randomized clinical trials (RCTs), evaluations of diagnostic tests, and observational studies. Meta-analyses and systematic reviews have become essential for compiling epidemiological and, more generally, medical knowledge. Because new health-related knowledge never stems from a single study, it is the researcher's responsibility to provide the necessary information to allow their individual study results to be integrated into future meta-analyses or systematic reviews [1].

The section on reporting surveys is of particular relevance for IJPH. Seven years ago, the journal was already making an attempt to create the basis for inter-survey comparisons by launching the section "International comparison of health determinants". The section is described in IJPH's guideline for authors:

International comparison of health determinants:
these Original Articles (4000 words) present survey or surveillance data using a standardised format. Distribution of health determinants are presented in an Appendix, stratified by gender and 5-year age groups, starting with 0–4, 5–9, etc. For each gender and age specific categories, present the percentiles 10, 50, 90, the mean and the SD. See Bernstein et al., Soz Praventiv Med 2001; 46 (1): 49–59 for a model. The paper itself presents

Much biomedical research is observational. The reporting of such research is often inadequate, which hampers the assessment of its strengths and weaknesses and of a study's generalizability. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Initiative developed recommendations on what should be included in an accurate and complete report of an observational study. We defined the scope of the recommendations to cover 3 main study designs: cohort, case–control, and cross-sectional studies. We convened a 2-day workshop in September 2004, with methodologists, researchers, and journal editors, to draft a checklist of items. This list was subsequently revised during several meetings of the coordinating group and in e-mail discussions with the larger group of STROBE contributors, taking into account empirical evidence and methodological considerations. The workshop and the subsequent iterative process of consultation and revision resulted in a checklist of 22 items (the STROBE Statement) that relate to the title, abstract, introduction, methods, results, and discussion sections of articles. Eighteen items are common to all 3 study designs and 4 are specific for cohort, case–control, or cross-sectional studies. A detailed Explanation and Elaboration document is published separately and is freely available at http://www.annals.org and on the Web sites of PLoS Medicine and Epidemiology. We hope that the STROBE Statement will contribute to improving the quality of reporting of observational studies.

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Figure 1 Abstract of the paper "The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: Guidelines for Reporting Observational Studies" [2].

a detailed description of the survey design and the measurement methods. Results focus on the most salient observations beyond the descriptive statistics included in the Appendix. Percentiles are shown, when relevant, with their confidence intervals. If data on similar variables have been published as contributions to this section of IJPH, use the corresponding appendices as a source of comparison and discussion.

The idea was to provide basic results of a survey in a standardized format, set by age groups, specific percentiles and summary statistics. This initiative has been moderately successful. Ten contributions were published in the section since 2001. It did not trigger the flow of manuscripts we expected considering that survey people should welcome an initiative that would help them overcome the obstacles one encounters when comparing surveys on the basis of published results. We do not know if the information has been used for publications outside of IJPH. STROBE adds another component to the same objective. It indicates what should be found in the report itself.

If you are going to use STROBE, the first step is to refer to the checklist for the specific study design you are reporting: cohort, case-control or survey (http://www.strobe-statement.org/Checklist.html; see also last page of this issue). Suppose you are reporting the results from a survey. You will find in the Checklist for Surveys, some items that are obvious but are often incompletely reported, such as, *"Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection",* or *"Give the eligibility criteria, and the sources and methods of selection of participants".* Other items are not systematically relevant for surveys, such as, *"Describe comparability of assessment methods if there is more than one group."* Is this item clear to you? If not, you can refer to the Explanation and Elaboration paper (http://www.strobe-statement.org/Publications.htm), which provides "real" examples extracted from published reports. For this item, you will find a sentence written by Lukanova et al.:

> *"Samples pertaining to matched cases and controls were always analyzed together in the same batch and laboratory personnel were unable to distinguish among cases and controls"*(Lukanova A, Söderberg S, Kaaks R, Jellum E, Stattin P. Serum adiponectin is not associated with risk of colorectal cancer. Cancer Epidemiol Biomarkers Prev. 2006; 15: 401–2.)

And you will also get a theoretical explanation:

> *"It is important to know if groups being compared differed with respect to the way in which the data were collected. This may be important for laboratory examinations (as in the second example) and other situations. For instance, if an interviewer first questions all the cases and then the controls, or vice versa, bias is possible because of the learning curve; solutions such as randomizing the order of interviewing may avoid this problem. Information bias may also arise if the compared groups are not given the same diagnostic tests or if 1 group receives more tests of the same kind than another (see item 9)."*

In my view, STROBE and the IJPH section "International comparison of health determinants" are two initiatives that complement each other well. They can boost inter-population comparisons, for which IJPH has ambitions of being the preferred publication venue.

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References

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