The Top Six Guidelines for Reporting Medical Research

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In scientific and medical research, transparency and accuracy are vital. They boost the usability, reliability, and impact of research findings. High-quality reporting is paramount owing to its direct impact on human health. Moreover, researchers, clinicians, and public health professionals need to be confident that research has been carried out properly and strictly adheres to the reporting guidelines. The consequences of reporting scientific or medical research in ways that are not transparent and accurate can be severe: medically, legally, and ethically.

Sometimes, a lack of accuracy or incomplete key information may occur due to a genuine error. Even experienced researchers can make mistakes. To avoid this, refer to structured tools or manuals from a trusted source when preparing your research report. Fortunately, detailed and reliable guidelines and checklists on research reporting,

developed by experts, are available for several different types of studies. This empowers the readers to completely evaluate the research and replicate it, if necessary.

Why Should I Use Reporting Guidelines?

Guidelines can help you avoid errors or omissions in your reports, thereby ensuring accurate reporting, critical appraisal, and validity of research findings. A paper that complies with the guidelines is more likely to be of high scientific merit. After all, even if your work is a great science, if you report it poorly, it is likely that no one will get to hear about it!
To clear the peer review process, your report should be accurate and contain sufficient details for it to be independently evaluated. Moreover, using guidelines or a checklist can help you achieve this and also avoid spending time on endless revisions.

Which Reporting Guidelines or Checklists Should I Use?

First, you will need to identify the most appropriate guidelines based on the type of research. For example – have you written a systematic review or meta-analysis? Have you carried out epidemiological research? Or are you reporting a clinical trial? Every report has unique features and therefore requires different guidelines.

Currently, there are six key sets of reporting guidelines specific to different types of studies available for use. Each includes a detailed checklist of 20 to 40 items. A group of experts including academicians, clinicians, statisticians, and systematic reviewers developed these guidelines and flow diagrams between 1996 and 2007. The main purpose of these guidelines was to determine the minimum set of information that gives a complete account of the specific type of study. Even though these guidelines were created several years ago, they are frequently updated. Following these guidelines will help you to ensure that your work is both accurate and clear.

The Six Sets of Reporting Guidelines

PRISMA

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) is a set of guidelines for reporting systematic reviews and meta-analyses. It mainly comprises a 27-item checklist and a four-phase flow diagram. The checklist includes title, abstract, introduction, methods, results, discussion, and source of funding or finance. The flow chart maps different features such as screening, eligibility, and inclusion/exclusion criteria for the report.

PRISMA was developed to increase transparency and improve reporting. Further, it aimed to help authors, editors, and reviewers, to assess the quality of a paper. Interestingly, a 2013 study found that the quality of published reports in this category

has significantly improved since the creation of PRISMA.

Subscribe Now! to download the checklist for the PRISMA guideline.

CONSORT

CONSORT (Consolidated Standards of Reporting Trials) is a useful set of guidelines for complete and transparent reporting of randomized controlled trials. It includes a 25-item checklist and a flow diagram. The checklist guides the structure of a report in terms of how the trial was designed, how findings were analyzed and interpreted. On the other hand, the flow diagram depicts how the patient navigates through the different phases of the trial. Additionally, CONSORT intends to influence study design and prevent poorly-designed trials from reaching the publication stage. As a result, these guidelines are continually evaluated and improved by a large team of researchers, editors, and statisticians.
Subscribe Now! to download the checklist for the CONSORT guideline.

STROBE

STROBE (STrengthening the Reporting of OBservational studies in Epidemiology) includes a 22-item checklist, specifically designed with the aim of ensuring high-quality reporting of observational studies such as cohort, case-control, and cross-sectional studies. Eighteen items from the checklist are identical, and applicable for all the three types of studies. The rest of the four items comprising participants, statistical methods, descriptive data, and outcome data, differ from study to study. These guidelines allow the researcher to exactly report what was planned and conducted during the study.

Another set of guidelines, STREGA (STrengthening the REporting of Genetic Association studies), an extension of STROBE, covers genetic association studies.

Subscribe Now! to download the checklist for the STROBE guideline.

MOOSE

MOOSE (Meta-analysis Of Observational Studies in Epidemiology) is a set of guidelines for reporting and enhancing the utility of epidemiological meta-analysis. It was created after researchers noticed that meta-analysis were being reported in diverse ways. It consists of a 35-item checklist, further divided into subcategories: title and abstract, introduction, sources and study selection, results, and discussion. These guidelines enable improved detailing of the investigators and the study design.

Subscribe Now! to download the checklist for the MOOSE guideline.

STARD

STARD (STAndards for the Reporting of Diagnostic accuracy studies) advises on reporting studies on diagnostic or prognostic accuracy. Several articles failed to present crucial elements of the study design and reflected biased assumptions. To tackle this, STARD came into being. It includes a 25-point checklist that comprises the heading, title, abstract, keywords, introduction, methods, and discussion. The flow diagram helps in reporting the recruitment protocol and the order in which trials and tests have been conducted.

Recent studies have found that STARD has had a positive impact on report quality. However, researchers feel there is still scope for improvement in terms of guideline adoption rate, and application by authors.

Subscribe Now! to download the checklist for the STARD guideline.

SPIRIT

SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials), developed in 2007, is one of the most recent sets of guidelines for reporting scientific trial protocols. A large team including researchers, statisticians, regulatory agencies, and editors, developed the guidelines to alleviate reporting errors. As a consequence, the team created a 33-item checklist. It had five major domains (administrative information, introduction, methodologies, ethical concerns, and appendices). SPIRIT, inspired by CONSORT, has incorporated certain elements from the latter with the aim of easing the transition process from SPIRIT-based protocol to a CONSORT-based protocol, if necessary.

Crucially, SPIRIT emphasizes the connection with mandatory reporting sites, such as ClinicalTrials, where studies must be registered to ensure transparency. Recently launched SPIRIT-PRO covers patient-reported outcome (PRO) data from clinical trials.

Subscribe Now! to download the checklist for the SPIRIT guideline.

Have you used any of these reporting guidelines in your work? Did you find them helpful? Or do you think they could be improved? Share your thoughts and experiences in the comments below.

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