

Reporting Guidelines for Use in Preparing Manuscripts for Nursing Journals

CE 1.0
Contact Hour

Marilyn H. Oermann, PhD, RN, ANEF, FAAN, Michael S. Eskew, DNP, RN, AGNP-BC, Jamie L. Conklin, MSLIS, and Dennis C. Williams, PhD

Abstract: For research to be used to build evidence and guide practice decisions, studies need to be reported accurately, completely, and without bias. Standardized reporting guidelines have been developed to improve the quality of manuscripts on different types of studies. Reporting guidelines are often in the form of a checklist, ensuring that authors include important elements in their manuscripts. Research has shown that authors who use standardized reporting guidelines submit higher quality manuscripts that include essential information. This article describes common reporting guidelines that can be used by nurse authors when preparing their manuscripts.

Key Words: authorship, nurse authors, nursing journals, reporting guidelines, writing for publication

Evidence-based practice is a term for describing clinical practice that uses research to guide decision making and establish treatment guidelines. Nurses, nurse practitioners, physicians, and other health care providers consider the strength of the research evidence when using evidence to inform clinical practice. A commonly used hierarchy of evidence places systematic reviews or meta-analyses of randomized controlled trials (RCTs) at the top of the pyramid (Level I), followed closely

Marilyn H. Oermann, PhD, RN, ANEF, FAAN

Thelma M. Ingles Professor of Nursing, Duke University School of Nursing, Durham, NC.

Michael S. Eskew, DNP, RN, AGNP-BC

Nurse Practitioner, Primary Health Partners, Oklahoma City, OK.

Jamie L. Conklin, MSLIS

Health Sciences Librarian, Health Sciences Library, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Dennis C. Williams, PhD

Dean of Teaching and Learning and Vice Provost for Institutional Effectiveness, Southern Nazarene University, Bethany, OK. The authors have declared no conflict of interest.

Correspondence: Marilyn H. Oermann, PhD, RN, ANEF, FAAN, Duke University School of Nursing, DUMC 3322, 307 Trent Drive, Durham, NC 27710.

E-mail: marilyn.oermann@duke.edu

DOI: 10.1097/JPS.000000000000195

by well-designed individual RCTs (Level II). The evidence is categorized from Level I (strongest evidence) to Level VII (weakest evidence; Melnyk & Fineout-Overholt, 2015). To be used effectively, however, the research studies meant to enhance our health care knowledge must be reported clearly, accurately, and completely (MacCarthy, Kirtley, de Beyer, Altman, & Simera, 2018). Studies also need to be reported in a transparent manner that communicates results that are free from bias. Consequences of poor health research reporting include results that cannot be replicated, a waste of resources, and eventual reduction of public trust. In addition, implementing treatments and care measures based on poorly done research, or not implementing treatments and care that could be beneficial but were not reported clearly, may negatively impact patient safety (Guowei et al., 2018). Even well-designed studies with strong evidence should be reported properly for the evidence to be useful to individuals and organizations that form health policy and provide health care to patients around the world.

The reporting of health research has been described, in general, as “bad” (Stevens et al., 2014). In 2009, Chalmers and Glasziou estimated that as much as 85% of research dollars were being wasted because of several factors, including failure to publish relevant research findings promptly and biased or unusable reports of research. The monetary waste alone is significant. In 2010, the estimated global expenditure on biomedical and life sciences research was \$240 billion in U.S. dollars (Macleod et al., 2014). Even a small percentage of waste represents a significant sum. Although efforts have been made to reduce waste and improve the quality of research reporting, there is room to improve.

REPORTING GUIDELINES

Reporting guidelines are tools that can address some of these concerns. Reporting guidelines are often in the

form of a checklist, ensuring that authors include important elements in their manuscripts. For reports of research, these elements include methodology as well as the findings, so that readers can interpret and replicate the study in their own settings. Reporting guidelines are designed to help authors prepare manuscripts that are clear, complete, and transparent (Oermann et al., 2018; Stevens et al., 2014). When manuscripts contain the necessary components in a predetermined format, it can lead to higher quality submissions that encounter fewer delays before publication, which also improves the quality and credibility of the journal (Oermann et al., 2018).

Authors select a guideline to use based on the type of research study to be reported. Examples of guidelines that improve the quality of research reports are the Consolidated Standards of Reporting Trials (CONSORT), Strengthening the Reporting of Observational Studies in Epidemiology, Consolidated Criteria for Reporting Qualitative Research, and Standards for Reporting Qualitative Research (Table 1). The CONSORT Statement was developed in 1996 and revised again in 2010. It was one of the first attempts at developing guidelines to improve the quality of research reporting. The CONSORT Statement recommends that manuscripts prepared for RCTs include certain content and be written in a specific format (Turner, Shamseer, Altman, Schulz, & Moher, 2012). Studies suggest that using the CONSORT guidelines when reporting on RCTs results in more accurate, transparent, and complete reporting (Turner et al., 2012).

Guidelines also are available for preparing a manuscript on a quality improvement (QI) project or study—

Standards for Quality Improvement Reporting Excellence (SQUIRE). When writing a manuscript on a review of research studies or a literature review, authors can refer to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). One other guideline that clinicians may find particularly useful is called Case Reports. This guideline was developed to help authors prepare a manuscript on a case report or to describe a patient encounter. Table 1 lists guidelines that nurse authors might find useful when preparing manuscripts for submission to nursing journals.

An additional resource for authors is the Enhancing the Quality and Transparency of Health Research (EQUATOR) Network. This is a Web site and database that provides resources for preparing manuscripts on many different types of research (www.equator-network.org). Currently, there are over 400 reporting guidelines listed on the EQUATOR Web site. The high number of reporting guidelines, which continues to grow, may be one of the reasons the reporting guidelines are underutilized (Shanahan, Lopes de Sousa, & Marshall, 2017). With so many guidelines for writing manuscripts, authors may find it difficult to locate the appropriate guideline for their article. To address this problem, a study performed in 2017 suggested that authors made fewer errors in selecting the appropriate reporting guideline when they used a simple decision-tree tool available on the EQUATOR Web site (Shanahan et al., 2017). The EQUATOR Reporting Guideline Decision Tree includes guidelines that cover 11 of the more common types of research studies. The goal of this

Table 1: Common Reporting Guidelines

Reporting Guidelines		Type of Manuscript
CONSORT	Consolidated Standards of Reporting Trials http://www.consort-statement.org/	Randomized controlled trials
STROBE	Strengthening the Reporting of Observational Studies in Epidemiology https://www.strobe-statement.org/index.php?id=strobe-home	Observational studies (case-control, cohort, and cross-sectional studies)
COREQ	Consolidated Criteria for Reporting Qualitative Research http://www.equator-network.org/reporting-guidelines/coreq/	Qualitative research (interviews and focus groups)
SRQR	Standards for Reporting Qualitative Research https://www.equator-network.org/reporting-guidelines/srqr/	Qualitative research (synthesis of recommendations)
SQUIRE	Standards for Quality Improvement Reporting Excellence http://www.squire-statement.org/	Quality improvement projects and studies
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses http://www.prisma-statement.org/	Systematic reviews and meta-analyses (can also be used for literature reviews)
CARE	Case Reports https://www.care-statement.org/	Writing case reports and reporting information from patient encounters
EQUATOR Network	Enhancing the Quality and Transparency of Health Research https://www.equator-network.org/ EQUATOR Reporting Guideline Decision Tree http://www.equator-network.org/toolkits/selecting-the-appropriate-reporting-guideline/	Web site with hundreds of reporting guidelines and links to other resources relevant to research reporting

decision tree is to help authors decide which guideline is relevant for preparing their manuscript.

REPORTING GUIDELINES REQUIRED BY NURSING JOURNALS

Currently, most nursing journals do not include a recommendation that authors use an appropriate reporting guideline when submitting a manuscript for publication (Oermann et al., 2018). A recent study suggests that most nursing journals provide general information for authors in preparing their manuscripts for submission. This general information includes topics such as the mission of the journal, types and formats of articles published in it, conflict of interest statements, and authorship criteria, among other areas (Oermann et al., 2018). Author instructions vary from journal to journal because they focus on preparing articles for submission to the specific journal.

Reporting guidelines, in contrast, are standardized criteria for reporting on specific study types that should not vary based on the journal. The CONSORT guideline is one of the most commonly used reporting guidelines in health care research reporting. However, less than 25% of the 245 nursing journals listed in the Directory of Nursing Journals, at the International Academy of Nursing Editors Web site, suggested using the CONSORT guideline when preparing a manuscript reporting on an RCT (Oermann et al., 2018). Although this percentage is low, it is important to point out that the CONSORT guideline may not be appropriate for all nursing journals to recommend because it is intended for use with reports on RCTs. If a nursing journal does not publish many RCTs, then it is unnecessary to include a recommendation for using this guideline.

In another study, Jull and Aye (2015) looked at 15 of the leading nursing journals, based on their rank when using the 5-year impact factor. The 5-year impact factor is the average number of times that articles published within that journal have been cited in the Journal Citation Reports (Clarivate Analytics, 2018). High-impact journals publish articles that are cited more frequently by others, and they are interested in publishing RCT reports, because of their strength of evidence. In this study, the authors found that less than half (46.7%) of the top 15 high-impact nursing journals, all of which published RCTs, included a recommendation to use the CONSORT guideline (Jull & Aye, 2015).

A study by Tam, Lo, and Khalechelvam (2017) found that of 107 nursing journals that published systematic reviews and meta-analyses, only 30 (28.0%) included a recommendation to use the PRISMA guidelines when preparing this type of manuscript. In another study of the author guidelines of nursing journals ($n = 245$) in

the Directory of Nursing Journals (at the International Academy of Nursing Editors Web site), PRISMA was recommended for preparing manuscripts on systematic reviews by 19.2% of the journals, SQUIRE was suggested for writing QI manuscripts by 13.9%, and Strengthening the Reporting of Observational Studies in Epidemiology was recommended for manuscripts that report observational studies (12.2% of the nursing journals; Oermann et al., 2018). Less than 10% of nursing journals referred authors to Consolidated Criteria for Reporting Qualitative Research and Case Reports guidelines.

IMPLICATIONS FOR NURSE AUTHORS

Whereas some nursing journals recommend that authors refer to standardized reporting guidelines when preparing manuscripts, most journals do not. Authors, however, should be aware of the existence and importance of reporting guidelines. When preparing a manuscript on a research study, QI study, review of the research or literature, and case report, authors should look over the relevant reporting guideline to ensure they include critical information in the article. These are readily available on the Internet; the URLs are listed in Table 1. For other types of manuscripts, authors can search at the EQUATOR Network Web site (<http://www.equator-network.org>). The EQUATOR Network (2018) also includes a checklist for each reporting guideline, which authors can use when planning the content to include in the manuscript.

In addition, authors can use the EQUATOR Reporting Guideline Decision Tree (<http://www.equator-network.org/toolkits/selecting-the-appropriate-reporting-guideline/>) to help identify the relevant guideline for their study type. Authors should be aware, however, that this decision tree is not a comprehensive tool. It includes only 11 of the guidelines. One of the more common guidelines excluded from the algorithm is SQUIRE, which should be used when writing manuscripts that report QI studies. Adams et al. (2017) recommended the inclusion of reporting guidelines as part of the curriculum for doctoral nursing students to improve their awareness and understanding of them.

CONCLUSIONS

Use of reporting guidelines may result in higher quality manuscripts that reach publication earlier. The guidelines aid authors in designing better studies and writing research reports that are complete and transparent, providing research evidence that is easier to critically appraise. Improvements in the quality of research reporting may result in a reduction of waste and better data

available for making health care decisions, which is the primary reason for research.

References

- Adams, Y. J., Kamp, K., Liu, C. C., Stommel, M., Thana, K., Broome, M. E., & Smith, B. (2017). Revisiting the quality of reporting randomized controlled trials in nursing literature. *Journal of Nursing Scholarship, 50*, 200-209. doi:10.1111/jnu.12368
- Chalmers, I., & Glasziou, P. (2009). Avoidable waste in the production and reporting of research evidence. *Lancet, 374*, 86-89. doi:10.1016/S0140-6736(09)60329-9
- Clarivate Analytics. (2018). Journal citation reports: 5-year impact factors. Retrieved from https://support.clarivate.com/ScientificandAcademicResearch/s/article/Journal-Citation-Reports-5-Year-Impact-Factors?language=en_US
- EQUATOR Network. (2018). *Reporting guidelines for main study types*. Retrieved from <http://www.equator-network.org/>
- Guowei, L., Bhatt, M., Wang, M., Mbuagbaw, L., Samaan, Z., & Thabane, L. (2018). Enhancing primary reports of randomized controlled trials: Three most common challenges and suggested solutions. *Proceedings of the National Academy of Sciences of the United States of America, 115*, 2595-2599. doi:10.1073/pnas.1708286114
- Jull, A., & Aye, P. S. (2015). Endorsement of the CONSORT guidelines, trial registration, and the quality of reporting randomised controlled trials in leading nursing journals: A cross-sectional analysis. *International Journal of Nursing Studies, 52*, 1071-1079. doi:10.1016/j.ijnurstu.2014.11.008
- MacCarthy, A., Kirtley, S., de Beyer, J. A., Altman, D. G., & Simera, I. (2018). Reporting guidelines for oncology research: Helping to maximise the impact of your research. *British Journal of Cancer, 118*, 619-628. doi:10.1038/bjc.2017.407
- Macleod, M. R., Michie, S., Roberts, I., Dirnagl, U., Chalmers, I., Ioannidis, J. P., ... Glasziou, P. (2014). Biomedical research: Increasing value, reducing waste. *Lancet, 383*, 101-104. doi:10.1016/S0140-6736(13)62329-6
- Melnyk, B. M., & Fineout-Overholt, E. (2015). Making the case for evidence-based practice and cultivating a spirit of inquiry. In B. M. Melnyk, & E. Fineout-Overholt (Eds.), *Evidence-based practice in nursing and healthcare: A guide to best practice* (p. 11). Philadelphia, PA: Wolters Kluwer.
- Oermann, M. H., Nicoll, L. H., Chinn, P. L., Conklin, J. L., McCarty, M., & Amarasekara, S. (2018). Quality of author guidelines in nursing journals. *Journal of Nursing Scholarship, 50*, 333-340. doi:10.1111/jnu.12383
- Shanahan, D. R., Lopes de Sousa, I., & Marshall, D. M. (2017). Simple decision-tree tool to facilitate author identification of reporting guidelines during submission: A before-after study. *Research Integrity and Peer Review, 2*(20), 1-6. doi:10.1186/s41073-017-0044-9
- Stevens, A., Shamseer, L., Weinstein, E., Yazdi, F., Turner, L., Thielman, J., ... Moher, D. (2014). Relation of completeness of reporting of health research to journals' endorsement of reporting guidelines: Systematic review. *BMJ, 348*, 1-29. doi:10.1136/bmj.g3804
- Tam, W. W., Lo, K. K., & Khalehelvam, P. (2017). Endorsement of PRISMA statement and quality of systematic reviews and meta-analyses published in nursing journals: A cross-sectional study. *BMJ Open, 7*(2), e013905. doi:10.1136/bmjopen-2016-013905
- Turner, L., Shamseer, L., Altman, D. G., Schulz, K. F., & Moher, D. (2012). Does use of the CONSORT Statement impact the completeness of reporting of randomised controlled trials published in medical journals? A Cochrane review. *Systematic Reviews, 1*, 60. doi:10.1186/2046-4053-1-60

For more than 218 additional continuing education articles related to research topics, go to
NursingCenter.com/CE.

Instructions:

- Read the article. The test for this CE activity can only be taken online at www.nursingcenter.com/ce/JPSN. Tests can no longer be mailed or faxed.
- You will need to create (its free!) and login to your personal CE Planner account before taking online tests. Your planner will keep track of all your Lippincott Professional Development online CE activities for you.
- Planner account before taking online tests. Your planner will keep track of all your Lippincott Williams & Wilkins online CE activities for you.
- There is only one correct answer for each question. A passing score for this test is 10 correct answers. If you pass, you can print your certificate of earned contact hours and access the answer key. If you fail, you have the option of taking the test again at no additional cost.

- For questions, contact Lippincott Professional Development 1-800-787-8985.

Registration Deadline: March 4, 2022

Disclosure Statement:

The authors and planners have disclosed that they have no financial relationships related to this article.

Provider Accreditation:

Lippincott Professional Development will award 1.0 contact hour for this continuing nursing education activity.

Lippincott Professional Development is accredited as a provider of continuing nursing education by the American Nurses Credentialing Centers Commission on Accreditation.

This activity is also provider approved by the California Board of Registered Nursing, Provider Number CEP 11749 for 1.0 contact hour. Lippincott Professional Development is also an approved provider of continuing nursing education by the District of Columbia, Georgia, and Florida, #50-1223.

The ANCC's accreditation status of Lippincott Professional Development refers only to its continuing nursing educational activities and does not imply Commission on Accreditation approval or endorsement of any commercial product.

Payment and Discounts

- The registration is for APSNA members is \$9.95 and \$12.95 for nonmembers.