



ELSEVIER



CrossMark

Featured Article

Assessing the Quality of Simulation-Based Research Articles: A Rating Rubric

Mary K. Fey, PhD, RN, CHSE^{a,*}, Donna Gloe, EdD, RN-BC^b, Bette Mariani, PhD, RN^c

^aAssistant Professor, University of Maryland, School of Nursing, Baltimore, MD 21201

^bClinical Instructor, Mercy College of Nursing and Health Sciences, Southwest Baptist University, Springfield, MO 65804

^cAssistant Professor of Nursing, Villanova University, College of Nursing, Villanova, PA 19085

KEYWORDS

simulation;
research rigor;
instrument
development;
rubric

Abstract

Background: The poor quality of many published simulation-based research articles has been acknowledged in the literature. This article outlines the development of a quality rating rubric for simulation research articles.

Method: A quality rating rubric was developed after literature review and collaboration with experts to ensure content validity. A content validity index was calculated. Inter-rater reliability was established.

Results: The final rubric contains 16 elements, which are graded on a scale of 0-4. Content validity index of the instrument is 0.96. Inter-rater reliability is 0.92.

Conclusions: This instrument provides a reliable method for evaluating the quality of simulation-based research articles.

Cite this article:

Fey, M. K., Gloe, D., & Mariani, B. (2015, December). Assessing the quality of simulation-based research articles: A rating rubric. *Clinical Simulation in Nursing*, 11(12), 496-504. <http://dx.doi.org/10.1016/j.ecns.2015.10.005>.

© 2015 International Nursing Association for Clinical Simulation and Learning. Published by Elsevier Inc. All rights reserved.

The use of simulation in health care has expanded dramatically in the last decade. In 2000, approximately 3% of nursing schools in the United States had purchased simulation manikins; by 2010, that number had risen to 87% (Rizzolo, 2014). Recognition of the value of simulation coupled with improvements in technology has converged to drive the adoption of simulation as a teaching methodology in the education of health care professionals. The use of simulation in nursing mirrors other high hazard industries, such as aviation, in that simulation is recognized as a

powerful tool in the education of health care professionals, with the ultimate goal of improving patient safety. How well simulation meets the goal of improving safety is dependent on the simulation community's ability to evaluate emerging ideas and practice through research (Kardong-Edgren, Gaba, Dieckmann, & Cook, 2011). The evidence to guide decisions about the use of simulation in health care education and practice is growing; however, issues related to the quality of studies and lack of standardization for reporting research have been acknowledged (Cook et al., 2011a,b; Kardong-Edgren et al., 2011; Laschinger et al., 2008; Raemer et al., 2011). These quality issues hinder the ability of simulation educators to build a foundation

* Corresponding author: fey@son.umaryland.edu (M. K. Fey).

from which to advance the science. This article outlines the development of a quality rating rubric for use with simulation-based research studies.

Outcomes of testing ideas and practices are disseminated in many disciplines through the transparent reporting of research studies. This reporting is most frequently accomplished through publication in peer-reviewed journals. Standards for reporting research require that researchers report elements of the study that allow readers to determine the value of a study's contribution to the state of the science and in many instances, the ability to replicate the study. Cook, et al. (2008) proposed standards for medical education submissions regarding quality research. Their sentinel work provides guidance for the medical profession in regards to

Key Points

- Existing research reporting guidelines do not capture important elements of simulation based research studies.
- The Simulation Research Rubric evaluates the reporting of simulation-specific elements.
- The Simulation Research Rubric provides a reliable method for grading the quality of simulation based research reports.

designing rigorous studies and preparing clear and informative transcripts. Howley, Szauter, Perkowski, Clifton, and McNaughton (2008) conducted a medical education literature review of the standardized patient (SP) research reports with recommendations. Key aspects recommended for inclusion in research reports included: details pertaining to the SP characteristics, key aspects of the encounter SP training, and psychometric properties of the behavioral measure(s) used (p. 356). O'Brien, Harris, Beckman, Reed, and Cook (2014) developed standards for reporting qualitative research. The standards for reporting qualitative research aims to improve reporting of qualitative research by providing clear standards to assist authors, editors, reviewers, and readers when critically appraising published qualitative research.

The Equator Network provides recommendations for transparency and rigor in report of research studies in medical research. The website provides links to a variety of guidelines for the major study methodologies. A vast library of information regarding recommendations is gathered for use by researchers (www.equator-network.org).

The best evidence medical education collaboration is an international group whose goal is to provide and make available scientifically grounded educational research for use by educators (Harden, Grant, Buckley & Hart, 1999). Simulation educators likewise require scientifically grounded research reporting to judge the value of incorporating research findings into practice. There are several known reporting conventions used in health care literature that were examined for their utility in reporting simulation research. The Consolidated Standards of Reporting Trials

(CONSORT) statement was developed to guide the reporting of randomized controlled trials (RCTs) (Turner, Shamseer, Altman, Schulz, & Moher, 2012). The CONSORT checklist includes 37 individual items that should be reported for RCTs (CONSORT, 2010); however, many simulation studies are not RCTs.

There are also reporting conventions for nonrandomized studies. One reporting convention for non-RCTs is the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) statement. The TREND checklist includes 22 items. Some of the items that differentiate TREND from CONSORT reflect the fact that many non-RCTs are studies conducted in public health and behavioral health. Differentiating checklist items include reporting of a theoretical framework and a description of services provided in a comparison condition (Des Jarlais, Lyels, Crepaz, & the TREND Group, 2004). For reporting research of observational studies in epidemiology, the Strengthening and Reporting of Observation Studies in Epidemiology (STROBE) statement was developed. It addresses three main types of observation studies: cohort, case-control, and cross-sectional studies (Von Elm et al., 2007). The STROBE checklist contains 22 items. Elements from the CONSORT, STROBE, and TREND reporting conventions were evaluated for their utility in reporting simulation-based research.

Reporting standards vary based on the journal as well as the practice discipline and study methodology. With the increase in published simulation research studies, it is important for simulation educators to critically assess and evaluate the rigor of this work and its application to practice.

The criteria by Glassick (1997) for creating a rubric for scholarship were reviewed. There are six key elements. First, the educator states the purpose of the work and defines realistic, achievable objectives that are related to the desired goals and outcomes. Second, there must be adequate preparation by the educator showing an understanding of the existing literature related to task. The educator should draw from this literature and prior experience to complete the project. Third, the educator must choose and apply the methodology appropriately, and if necessary, modify the methods. Fourth, the educator achieves the goals of the project and contributes a report that invites further exploration. Fifth, the educator presents the project with clarity and integrity to the appropriate audience. Sixth, the educator thoughtfully assesses the project and uses own insights, along with reviews and critiques of others to enhance the original concept for the project.

In evaluating existing research reporting conventions and quality rating rubrics for their applicability to simulation research, we identified common elements, distinguishing elements, and elements that were missing in each. Transparent reporting of simulation research studies must include information about the simulation intervention that is not normally captured by other reporting conventions or research quality assessment rubrics. A lack of transparency about the content and delivery of the simulation limits the

Download English Version:

<https://daneshyari.com/en/article/2645977>

Download Persian Version:

<https://daneshyari.com/article/2645977>

[Daneshyari.com](https://daneshyari.com)