Does simulation really increase the gynecologic surgical skill?

Quan Shen, M.Med, Xufei Luo, MPH, Meng Lv, MD

PII: S0002-9378(22)00656-1
DOI: https://doi.org/10.1016/j.ajog.2022.08.021
Reference: YMOB 14686


Received Date: 14 June 2022
Accepted Date: 16 August 2022

Please cite this article as: Shen Q, Luo X, Lv M, Does simulation really increase the gynecologic surgical skill?, American Journal of Obstetrics and Gynecology (2022), doi: https://doi.org/10.1016/j.ajog.2022.08.021.

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2022 Published by Elsevier Inc.
Title: Does simulation really increase the gynecologic surgical skill?

Author: Quan Shen 123, M.Med, Xufei Luo 4, MPH, Meng Lv 235, MD.

1. The Third XiangYa Hospital of Central South University, Changsha, Hunan Province, China.
2. Chevidence Lab Child & Adolescent Health, Children’s Hospital of Chongqing Medical University, Chongqing, China
3. National Clinical Research Center for Child Health and Disorders, Chongqing, China
4. School of Public Health, Lanzhou University, Lanzhou, China
5. Children’s Hospital of Chongqing Medical University, Chongqing, China

*Correspondence: Meng Lv, Chevidence Lab Child & Adolescent Health, Children’s Hospital of Chongqing Medical University, Chongqing, China. E-mail: lvm2016@163.com

Conflicts of interest: The authors report no conflict of interest.

Source of funding: The study receives no funding.

Word Count: 399
TO THE EDITORS: We read with interest the article by Orejuela et al evaluating the effect of simulation training on learner operative skills in gynecologic surgeries. The authors concluded that simulation-based training could improve the operative skills, and had a moderate quality of evidence. However, we would like to highlight the following methodological concerns of these results.

The authors pooled the results of randomized controlled trials (RCTs) and nonrandomized comparative studies (NRCs) together, which may introduce bias because of their methodological differences. We therefore performed a subgroup analysis based on the study design (Supplemental eFigures) and found that there are differences in effect estimates between NRCs and RCTs among 3 meta-analyses. In eFigure A and C, NRCs showed a significantly difference whereas RCTs didn’t. In eFigure B, a significantly small effect of decrease was found in the pooled result, irrespective of study design, however, there was no significant difference in subgroups of both NRCs and RCTs. Therefore, we believe the NRCs and RCTs should not be pooled in a single meta-analysis simply. The conclusions on the effectiveness of simulation-based training could be considered misleading and might lack clinical relevance since RCTs are more likely to provide unbiased information than NRCs.

Additionally, the authors did not correctly use the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach, and did not report each factor for downgrading and upgrading the quality of evidence explicitly and transparently. First, according to the GRADE methodology, the quality of RCTs and NRCs should be assessed separately, and the final assessment result should be presented by considering the results of RCTs and NRCs comprehensively. Please note that we just present the results of RCTs because
the quality of evidence of RCTs is equal to or higher than NRCs in the current review (Supplementary eTableA). Second, the NRCs should initially be rated as “low” according to the GRADE handbook. Third, the quality of evidence for all the outcomes should also be downgraded by imprecision, because the sample sizes of the included studies were relatively small.

Researchers should decide when to include both RCTs and NRCs in evidence synthesis and should carefully explain the results from different study types, which will increase the certainty and comprehensiveness for a certain research question. We also recommend that reviewers should seek appropriate methodology training in conducting systematic reviews and do their best to guarantee the reliability and accuracy of results.
REFERENCES


