Analyzing the sedative effect of low quality research in anesthesiology shows many systematic reviews are still groggy

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Introduction

Methodological quality analysis is not a new concept. As systematic reviews have evolved into a valuable resource for clinicians, the literature has continued to call for adequate methodological quality assessment of primary studies. In 1999, Moher et al. published the QUOROM statement establishing quality assessment for all primary studies included in systematic reviews. What proportion of anesthesia reviews or meta-analyses published since 2007 used any published scale or tool for assessing quality/risk of bias? To answer this question, we sought to answer the following research questions:

1. What proportion of anesthesia review or meta-analyses published since 2007 used any published scale or tool for assessing quality/risk of bias?
2. Of those that did use any published scale or tool for assessing quality/risk of bias, did they use a published scale or tool specifically designed for anesthesia reviews?
3. For those that did use a published scale or tool specifically designed for anesthesiology, how many of these methods do not evaluate important aspects of the primary evidence?

Results: Quality/Bias Assessment in Anesthesia Reviews

Of the 207 systematic reviews and meta-analyses included in our review, we found that the majority did assess methodological quality/risk of bias (MQ/RB); however 33 of the reviews did not. Furthermore, only 24 of the reviews excluded the primary studies identified to be of low methodological quality or high risk of bias.

Conclusion

Although guidelines exist for risk of bias assessment, review authors do not utilize a consistent approach to this important activity.

Systematic reviews and meta analyses published in recent anesthesia literature include high risk of bias studies more often than expected.

Authors often assess risk of bias using their own methods of assessment, and many of these methods do not evaluate important aspects of the primary studies.

The Cochrane Risk of Bias tool is a valuable resource that should be utilized more in reviews of anesthesiology clinical research.