

GRADE guidelines 17: assessing the risk of bias associated with missing participant outcome data in a body of evidence.

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Abstract

Objective: To provide GRADE guidance for assessing risk of bias across an entire body of evidence consequent on missing data for systematic reviews of both binary and continuous outcomes. **Study Design and Setting:** Systematic survey of published methodological research, iterative discussions, testing in systematic reviews, and feedback from the GRADE Working Group. **Results:** Approaches begin with a primary meta-analysis using a complete case analysis followed by sensitivity meta-analyses imputing, in each study, data for those with missing data, and then pooling across studies. For binary outcomes, we suggest use of “plausible worst case” in which review authors assume that those with missing data in treatment arms have proportionally higher event rates than those followed successfully. For continuous outcomes, imputed mean values come from other studies within the systematic review and the standard deviation (SD) from the median SDs of the control arms of all studies. **Conclusions:** If the results of the primary meta-analysis are robust to the most extreme assumptions viewed as plausible, one does not rate down certainty in the evidence for risk of bias due to missing participant outcome data. If the results prove not robust to plausible assumptions, one would rate down certainty in the evidence for risk of bias..

Keywords

GRADE, Missing participant data, Risk of bias, Systematic reviews, Trials.