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ASSESSING RISK OF BIAS OF TRIALS IN SYSTEMATIC REVIEWS OF ORAL HEALTH INTERVENTIONS: CROSS SECTIONAL STUDY

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Background and Objectives: The conduct of systematic reviews (SRs) relies heavily on the internal validity of the included trials. Critical appraisal of the methodological quality of trials –or risk of bias assessment– is an essential feature of SRs of therapeutic interventions. The objectives of this study were to describe how the methodological quality of trials is assessed in SRs of oral health interventions and to identify determinants of quality assessment in oral health SRs.

Methods: Oral health SRs that evaluated a therapeutic intervention related to dental, oral or craniofacial diseases/disorders were identified through searches of seven databases. Data were extracted from all SRs on methodological quality assessment tools used. Associations between trial quality assessment and publication and review characteristics were explored in logistic regression analyses.

Results: 1,114 therapeutic oral health SRs (130 Cochrane and 984 non-Cochrane) published between 1991 and May 2014 were identified (including 134 orthodontic SRs). The methodological quality of primary studies was assessed in 61.4% of the SRs (including 65% of orthodontic SRs). This occurred more often in Cochrane SRs than in non-Cochrane SRs (100% vs. 56.3%, $p < 0.01$) and in SRs published after dissemination of the PRISMA statement in 2009 (OR: 1.55; 95% CI: 1.18, 2.03). Compared to SRs of periodontics and public health interventions, SRs of orthodontics and dentofacial orthopedics were less likely to assess risk of bias of individual trials (OR: 0.49; 95% CI: 0.28, 0.86). Furthermore, SRs published in specialized dental journals were less likely to assess risk of bias of individual trials (OR: 0.23; 95% CI: 0.15, 0.34) compared to SRs published in non-dental journals. Finally, SRs published in journals with impact factors above the median impact factor of publication were more likely to assess risk of bias of individual trials (OR: 0.45; 95% CI: 0.34, 0.60).

Conclusion: A number of quality assessment tools have been used in appraising risk of bias of studies included in oral health SRs; however, there is no tool specifically designed for assessing the methodologic quality of oral health trials. There is a need for a methodological quality assessment tool designed specifically for assessing quality of oral health trials.

Being presented as part of the "Latest Advances in Canadian Orthodontic Research", Saturday, September 19th.