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How valid are evidence-based guidelines? – Comparative analysis of guideline recommendations with current systematic reviews using the example of diabetes mellitus type 2

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Background: Clinical practice guidelines (CPGs) should assist in supporting medical decisions and improving healthcare. A prerequisite is that CPGs contain reliable information for such decisions. Consequently, alongside the internationally established appraisal of the methodology of CPG development, it is clearly necessary to develop a method to check CPG contents. A central aspect of content appraisal is assessing the validity of CPG recommendations.

Purpose: To collect information to check whether CPG recommendations were valid and to identify possible difficulties.

Methods: Evidence-based CPGs on diabetes treatment were identified using a systematic search in guideline databases (GIN, leitlinien.de, NGC). The criteria for "evidence-based" were: systematic search, indication of level of evidence (LoE)/grade of recommendation (GoR), link between recommendation and literature. Two current systematic reviews (SRs) on the pharmacotherapy of diabetes mellitus type 2 were chosen. They covered comprehensive searches, identified unpublished data, and included comments from stakeholders. Relevant recommendations, LoE/GoR, and cited literature were extracted from CPGs; results from the SRs were assigned to CPG recommendations and publications included in/excluded from the appraisal (with exclusion reason) were extracted. A comparative analysis was subsequently performed using predefined criteria.

Results: A total of 6 CPGs were included in the analysis. Although all were described as "evidence-based", only 3 fulfilled the predefined criteria. In most cases recommendations could not be clearly identified. Methods used to formulate the recommendations were often not presented transparently. Furthermore, the following problems were identified: CPGs did not use unpublished data, so there probably was a relevant publication bias. Marketing authorisation aspects were not handled systematically.

Conclusion: Checking the validity of CPG recommendations is a long overdue step in CPG appraisal. Using high-quality secondary literature to do this is one possible approach. The problems identified not only have to be considered when appraising validity, but also when developing CPGs.