



Overviews and umbrella reviews

Dental literature over the past 15 years has been flooded by so-called systematic reviews, many of them of dubious methodological value and therefore with unreliable conclusions, although some are very well conducted (i.e. most of the Cochrane reviews).

Now we have a new problem: how to evaluate so many systematic reviews? A single review will rarely address all the potential interventions for a given condition, for instance a clinical problem could be how to best rehabilitate patients with missing teeth. There are a lot of additional questions to be answered, i.e. partial or full edentulism? Using removable or fixed prostheses? If one of the options is dental implants, is there sufficient bone or do we need to augment? Which implant material, design or type (conventional, pterygoid, zygomatic or ultra-short implants) should we use? To be placed flapless, or not? Immediately after tooth extractions, or not? Loaded immediately or after bone healing? How should the prostheses be made? And so on.

The answer to multiple systematic reviews aimed at evaluating the evidence of more specific interventions is to make a systematic review (or reviews) called an "overview" or "umbrella review". Things look easy, but they are usually not since there could be three different situations.

Scenario 1 (the ideal world, typically addressed by Cochrane reviews): There are many systematic reviews conducted (ideally) with exactly the same and standardised methodology that compare many different treatment options for the same condition. There are not multiple reviews on the same topic. A short systematic review is needed to summarise the main general findings, while for more specific information the reader will be directed to the original review.

Scenario 2: There are many systematic reviews conducted with a variety of different methodologies comparing the same interventions and reaching similar, or even totally different, conclusions. There are many systematic reviews on the same topic. Here we need some sort of tool to evaluate the appropriateness of different systematic reviews evaluating the same or very similar questions in order to understand who is right or not.

Scenario 3 (very common indeed): This is a mixture of the two scenarios above where there are multiple reviews with different methodologies on the same topic and also similar complementary topics, and we need to understand and summarise what is going on.

All three situations need an answer that can be obtained using different strategies. For those interested in Scenario 1 we refer you to the Cochrane website, whereas for those interested in Scenarios 2 and 3 we have published in this issue one example of an umbrella review evaluating different reviews on the same, but also complementary, topics, for instance the effects of different interventions for dental implant rehabilitation in atrophic partially edentulous patients.

Personally, I would stick to Scenario 1 (same methodology for all), but practically Scenarios 2 and 3 are overwhelming, so there is a need there. I do not wish to flood journals with overviews or umbrella reviews... these can only be conducted by people with a mixed profound methodological background, which is rare in dentistry.

Happy reading
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