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References: 1. Adtralza[®] SPC. 2. Bieber T. Allergy 2020;75:54-62.

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Systemic treatments for psoriasis: not another network meta-analysis!

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Linked Article: Guelimi *et al.* *Br J Dermatol* 2022; <https://doi.org/10.1111/bjd.20908>

The number of available systemic treatments for psoriasis, including biologics, has increased rapidly in recent years, necessitating up-to-date and comprehensive comparative effectiveness research to aid clinical decision making. A plethora of systematic reviews have been published assessing the effectiveness of systemic treatments for psoriasis, typically compared in randomized trials to placebo. More recently, the analytical methods in systematic reviews have been expanded through the application of network meta-analysis (NMA), which enables head-to-head comparisons of active treatments using both direct (where treatments have been compared within trials) and indirect evidence (where treatments have been compared with a common comparator).¹ NMAs thus allow all treatments connected in a network to be compared and ranked with each other.

In this issue of the *BJD*, Guelimi *et al.* evaluate 47 NMAs published from 2006 to 2020 that assessed the effectiveness of systemic treatments for moderate-to-severe psoriasis.² The authors included systematic reviews of randomized controlled trials that assessed the efficacy or safety of a wide range of systemic treatments compared with placebo or another intervention.

Firstly, the authors concluded that there was a high level of redundancy from so many NMAs published on the same research question – on average three per year over 15 years – with the rate of publication increasing over time. This highlights the need for researchers and journals to check that existing NMAs have not been registered or published and, where they have, for authors to provide robust arguments for why an additional NMA is required.

Secondly, the authors noted that the rankings of treatments varied between the NMAs, even when they were published in the same year. This discrepancy may be attributed to the quality of the underlying systematic review and NMA, where more than 80% of the included NMAs were deemed to be critically low in terms of the confidence in their results, predominantly due to not registering or publishing the protocol, inadequate reporting of the literature search, or not performing a risk-of-bias assessment, which are fundamental components of a high-quality systematic review.³ This highlights the importance for NMAs to be conducted¹ and reported⁴ using best-practice methods, and authors should consider including an assessment of the

confidence of the evidence (e.g. CINeMA)⁵ so that the results are reproducible and provide a true account of the evidence to support consistent clinical decision making.

Another potential explanation for discrepant results between NMAs is possible bias related to industry funding. More than half (55%) of the included NMAs were funded by industry. This could lead to bias in the way an NMA is conducted by influencing the inclusion and exclusion criteria, outcomes analysed and statistical methods to achieve results favourable to a funder's treatment.

Finally, studies were selective of the outcomes assessed: many focused solely on efficacy, were limited to short-term outcomes, and did not consider safety. Systematic reviews should provide a global account of the evidence, focusing on both beneficial and harmful effects of interventions. It is important that, where possible, both short- and long-term efficacy and safety outcomes are considered in systematic reviews.

This publication draws attention to the overuse of NMAs on systemic treatments for psoriasis. Researchers conducting future NMAs in psoriasis and other clinical areas should avoid redundancy and use robust methods and complete reporting.

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Jo Leonardi-Bee ¹ and Aaron M. Drucker ^{2,3}

¹Centre for Evidence Based Healthcare, School of Medicine, University of Nottingham, Nottingham City Hospital, Nottingham, UK; ²Division of Dermatology, Department of Medicine, University of Toronto, Toronto, ON, Canada; and ³Women's College Research Institute and Department of Medicine, Women's College Hospital, Toronto, ON, Canada
Email: jo.leonardi-bee@nottingham.ac.uk

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2 Commentary

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