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Dermatological evaluation in patients with skin of colour: the effect of erythema on outcome measures in atopic dermatitis

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Of the many dermatological challenges in patients with skin of colour (SOC), the difficulty in detecting erythema in heavily pigmented skin is well documented. Prior studies argue that cutaneous diseases that traditionally rely on the detection of erythema for diagnosis and severity, such as atopic dermatitis, may be underdiagnosed and undertreated in patients with SOC.¹ In this edition of the *British Journal of Dermatology*, Zhao and colleagues present an outstanding comparison study addressing the validity of outcome measures in patients with SOC with atopic dermatitis.² In contrast to current hypotheses, the presence of erythema did not worsen intra- or inter-rater reliability among experienced dermatologists using several atopic dermatitis outcome measures in patients with SOC. This study was critical in confirming the superiority and utility of the Eczema Area and Severity Index outcome measure for patients of all skin types suffering from atopic dermatitis.

This investigation also exposes remaining clinical challenges and gaps in the SOC literature. In this study, Fitzpatrick skin types IV–VI were clustered together, and only three patients with a melanin index greater than 400 were included, with a predominantly Caucasian and Asian cohort. However, SOC represents a heterogeneous range, and it is critical to compare outcome measures between very dark-skinned (type VI) and relatively dark-skinned (types IV and V) patients. Additionally, although erythema perception in patients with SOC did not contribute to inter-rater variability in scoring outcomes, participants in this study were scored at only one point in time. What remains unclear is whether erythema in patients with SOC may become more difficult to appreciate or distinguish from post-inflammatory hyperpigmentation over time as disease progresses. This may be particularly relevant for skin types V and VI, in whom hyperpigmentation can mask erythema. This area merits future exploration.

Interestingly, compared with lighter-skinned patients, patients with SOC in this study had lower Patient-Oriented Eczema Measure scores, a measure of symptoms, but similar scores

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Conflicts of interest

None to declare.

for the other outcome measures. As the authors discuss, this could represent that compared with their light-skinned counterparts, patients with SOC perceive their disease as less severe than it is according to objective assessment. Alternatively, this incongruence could also suggest that existing atopic dermatitis outcome measures overestimate disease severity in patients with SOC. Future studies may further examine the implications of these perceptual differences between patients with SOC and their providers.

The field of dermatology has made significant progress from an initial concentration on Caucasian skin to an expanding study of pigmented skin. There are persisting misconceptions and uncertainties about managing disease in SOC. This study provides a valuable framework for future research evaluating outcome measures in SOC and highlights remaining gaps in clinical knowledge that may guide future investigations in this burgeoning field.

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