

# Differences in Psychometric Properties of Clinician and Patient-reported Outcome Measures for Atopic Dermatitis By Race and Skin Tone: A Systematic Review

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## ABSTRACT

Psychometric validity and reliability of widely used atopic dermatitis (AD) outcome measures across different race and ethnicity is unclear. We describe rates of reporting race, ethnicity and skin tone in studies testing psychometric properties of AD outcome measures and compare psychometric analyses across race, ethnicity, and skin tone. We systematically reviewed MEDLINE and EMBASE for studies reporting psychometric properties of clinician reported (ClinROM) or patient reported outcome measures (PROM) in AD (PROSPERO: CRD42021239614). Overall, 16,100 non-duplicate articles were screened; 165 met inclusion criteria. Race and/or ethnicity were reported in 55 (33.3%) studies; of those, race was assessed by self-report in 10 (6.1%) or was unspecified in 45 (27.3%). Sixteen studies (9.7%) evaluated psychometric property differences by race and only 5 (4.4%) of those that did not recognized it as a limitation. Properties assessed across race, ethnicity or skin tone were differential item functioning, convergent validity feasibility, inter-rater reliability, intra-rater reliability, test-retest reliability, and known-groups validity. Multiple instruments demonstrated performance differences across ethno-racial groups. This review highlights the paucity of race/ethnicity consideration for psychometric property testing in AD outcome measurement instruments. More AD outcomes instruments should be validated in diverse populations.