Dermatology Practical & Conceptual

Nail Dermatologist and Patient Educational Content Lacks Adequate Skin of Color Representation: Implications for Care

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Skin of color (SoC) representation in dermatology educational content is lacking, which has been recognized only recently [1]. Poor inclusion of SoC images in training materials may contribute to delays and missed diagnoses in SoC patients [2], which can have significant implications for care. In an analysis of trends of SoC representation in dermatology textbooks over time [3], on average, there were only 11.5% of Fitzpatrick skin type V-VI images across 26 dermatology textbooks, with an overall 1.3% average increase in representation with later textbook editions. In this commentary, we corroborate these findings of limited SoC representation specifically for nail diseases in dermatology textbooks, review other learning modalities, and highlight resources for SoC images.

In an analysis of 1288 nail images of 34 nail conditions across nine dermatology and nail-specialty textbooks [4], only 4% of images overall represented skin types V-VI, with no V-VI representation for 47.1% (16/34) of nail conditions. The mean proportion of V–VI nail images per textbook was 6.6% (range 0.9%–23.5%). Compared to all dermatology images [3], nail-specific images had less V-VI representation in 80% (4/5) of textbooks (Table 1). Therefore, nail conditions lack adequate SoC representation in dermatology textbooks.

In a Google image analysis of the same 34 nail conditions [5], categorizing the first 50 images per condition by Fitzpatrick skin type, only 8% of 1700 images demonstrated V-VI skin types. The highest proportion of V-VI images were found for anonychia (36%) and longitudinal melanonychia (22%), with no V-VI images for onychomycosis, despite it being the most common nail disease encountered in clinical practice [6]. Therefore, public education images of nail pathology in SoC patients are lacking.

In addition, in a systematic review of 182 onychomycosis clinical trials (1988– 2020) [7], only 5.4% (8/149) of

Table 1. Proportion of Fitzpatrick skin type V-VI images for all dermatology images and nail-specific images in five dermatology textbooks.

Textbook	All dermatology images [3]	Nail images [4]
Jean Bolognia et al., eds. Dermatology. 4th ed. Elsevier; 2018.	13.53	5.9
Klaus Wolff et al., eds. Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology. 8th ed. McGraw-Hill Education; 2017.	7.64	6.7
Thomas P. Habif. Clinical Dermatology: A Color Guide to Diagnosis and Therapy. 6th ed. Saunders; 2015.	4.88	1.4
Christopher E. M. Griffiths et al., eds. Rook's Textbook of Dermatology. 8th ed. John Wiley & Sons, Ltd; 2010	9.56	5.9
Brian J. Hall, John C. Hall, eds. Sauer's Manual of Skin Diseases. 11th ed. Wolters Kluwer; 2017.	15.99	23.5

participant images depicted skin types V-VI. There was a decrease in the proportion of V-VI onychomycosis images from 15.7% to 2.1% between 1996 and 2020. Therefore, there is a need to recruit diverse patient populations in nail clinical trials and depict images of participants with darker Fitzpatrick skin types in publications.

Taken together, these findings highlight inadequate demonstration of nail pathology in SoC for both dermatologist and patient education. There is limited nail training during dermatology residency [8], and the lack of adequate representation of nail pathology across all skin types in different educational platforms further compounds this problem. Therefore, we encourage dermatology residents and attendings to supplement their learning with resources that prioritize SoC education and/or have sections specific to SoC, such as websites for VisualDx, Skin Deep, and the Skin of Color Society [9].

While the need to diversify physician and patient dermatological content has been recognized, there is a lag in implementing change, particularly for nail content. Failure to sufficiently portray educational SoC nail images may result in worse outcomes for this patient population. Therefore, dermatology residency programs should use dedicated SoC resources to demonstrate nail pathology during didactic lectures, and dermatologists who review online medical websites should advocate for increased diversity specifically for nail content.

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