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Skin of Color Representation in Commonly Utilized Medical Student Dermatology Resources

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INTRODUCTION

Fifty percent of the United States (US) population will be comprised of skin of color by 2050.[1] Accordingly, medical professionals must improve detection of dermatologic conditions in skin of color patients. A 2015 study found that medical students detected melanoma in only 15.9% of African American patients.[2] Yet, only 22–32% of images in dermatology textbooks were of skin of color,[3,4] and this underrepresentation extended to USMLE preparatory resources.[5] Our study aimed to evaluate the use of skin of color images in two dermatology resources frequently referenced by medical students.

Images from the American Academy of Dermatology (AAD) Basic Dermatology 4-week Curriculum (34 modules) and Lookingbill and Marks' Principles of Dermatology, 6th edition (24 chapters) were collected. Images were reviewed and rated by the Fitzpatrick skin phenotype scale, as it is the gold standard for classifying skin types.[5] Ratings of Fitzpatrick type I–III were classified as "not skin of color" while types IV–VI were classified as "skin of color". Duplicate images were not included.

Analysis yielded 824 images from the AAD Basic Dermatology Curriculum and 438 images from the Lookingbill and Marks' Principles of Dermatology totaling 1,262 images. Ten duplicate images were excluded. 22.6% of images from the AAD Curriculum and 18.5% from Lookingbill and Marks were rated as skin of color. Top skin of color modules in the AAD Curriculum were Blotches: Dark Rashes (73.2%), Blotches: Light Rashes (61.4%), Pediatric Fungal Infections (50.7%), and Drug Reactions (40.3%). Dermatologic Therapies, Basal Cell Carcinoma, The Red Leg, Contact Dermatitis, Infestation and Bites, Urticaria, and Dermatoses in Pregnancy had the least number of skin of color images (0.0%). Top chapters with skin of color images in Lookingbill and Marks were Chapter 13: White Spots (60.4%), Chapter 2: Structure and Function of the Skin (36.2%), Chapter 19: Ulcers (33.5%), and Chapter 23: Skin Signs of Systemic Disease (27.3%). Chapter 4: Dermatologic Therapy and Procedures and Chapter 10: Vesicles and Bullae both had the least number of skin of color images (0.0%). In total, 259 (20.5%) images were of skin of color and 1,003 (79.5%) images were not of skin of color. The Blotches: Dark and Light Rashes from the AAD Modules and White Spots chapter from the Lookingbill and Marks Textbook had the highest representation of skin of color. This is likely because conditions such as vitiligo are well visualized in skin of color patients.[4]

Our findings indicate underrepresentation of skin of color images in two dermatology resources commonly utilized by medical students. The dearth of images in multiple resources makes it difficult for medical students to gain comfort with treating patients of skin of color and may contribute to implicit bias and stereotyping. Moreover, a recently published article mentioned that there is a paucity of skin of color images in publications of COVID-19 skin manifestations, although COVID-19 disproportionately affects minority groups.[6] This form of underrepresentation continues to the present day. Based on our findings, it is imperative that dermatologists work with the AAD, residency programs, medical schools, and textbook publishers to expand the skin of color curriculum earlier in medical training. Increased skin of color representation in medical resources can help future health care professionals provide better care for these patients.

DISCLOSURES

The authors have no conflicts of interest to declare.

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