

Editorial

Rheumatology Education Needs a Splash of Color

Lisa Zickuhr¹  and Brian F. Mandell² 



Health disparities in the delivery and outcomes of clinical care exist across the spectrum of patients with rheumatic diseases. In a retrospective analysis of the Corrona registry, patients with rheumatoid arthritis identifying as racial or ethnic minorities achieved lower rates of remission or low disease activity scores and reported poorer functional status compared to White patients.¹ Moore and colleagues observed worse pulmonary disease and higher unadjusted mortality rates among Black and African American patients with systemic sclerosis compared to White patients.² Systemic lupus erythematosus (SLE) may represent the rheumatic disease most burdened with racial disparities, as Black, African American, and Latinx patients suffer more severe disease at earlier ages and have worse outcomes than their White counterparts.^{3,4,5} Many patient factors contribute to poorer outcomes, including socioeconomic status, educational attainment, and cultural customs or beliefs.

The medical community must advocate for patients to achieve equitable health outcomes and must work to reduce any additional contributions to disparity of care, including those created through medical education. Educational materials should depict the appearance of clinical manifestations in patients of all skin tones to equip trainees and practicing clinicians with the skills to care for all patients. These resources should reinforce the recognition of rheumatic diseases across races and ethnicities and highlight the severity and prevalence of rheumatic diseases among patients of color. Inclusive educational materials can enrich the knowledge and clinical practice of learners spanning the continuum of medical education, especially for those who

may train or practice in less diverse communities. The benefits of such an approach to medical education carry high impact in the campaign for health equity and enhance the quality of care provided to all patients. Rheumatology educators, authors, and professional societies must accept the responsibility to intentionally represent all patients and call attention to the unique expression and management of rheumatic diseases in minority patient populations in the specialty's curricula and shared educational materials.

We are far from fulfilling this responsibility. In this issue of *The Journal of Rheumatology*, Bae and colleagues report that rheumatology education materials generally present a monochromatic representation of patients, mostly including images of patients with light skin tones.⁶ They identified 1604 images of patients with rheumatic diseases from 5 commonly referenced rheumatology and dermatology resources and graded the depicted skin tones according to the Fitzpatrick skin type (FST) scale, categorizing them as “light” (FST I through IV), “dark” (FST V and VI), or “indeterminate” (picture quality precluded assessment). Their results demonstrate that the majority of reviewed images portrayed light skin (86%), with a striking minority representing dark (9%) or indeterminate (5%) skin tones.

These results are consistent with other publications describing a predilection for light skin tones among images used in educational materials. This trend is widespread, extending beyond the field of rheumatology to include educational resources created for trainees in dermatology, plastic surgery, and core undergraduate medical education.^{7,8,9} Within the past year, 2 other groups evaluated the representation of skin color among patients with rheumatic diseases; they conducted analyses similar to Bae and colleagues' and published congruent findings.^{10,11} Combined, these 3 studies analyzed 62 unique resources, highlighting that rheumatology materials favor the publication of images of patients with light skin.^{6,10,11} Patients with darker skin tones—the subsets of patients who suffer disproportionately poorer outcomes from rheumatic diseases—are underrepresented.

To better understand if technical aspects might contribute to this shortcoming, we spoke with 3 medical photographers. One

¹L. Zickuhr, MD, MHPE, Assistant Professor of Medicine, Washington University School of Medicine, Division of Rheumatology, St. Louis, Missouri;

²B.F. Mandell, MD, PhD, Professor of Medicine, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Department of Rheumatologic and Immunologic Diseases, Cleveland, Ohio, USA.

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Address correspondence to Dr. B.F. Mandell, Cleveland Clinic Foundation, Rheumatic and Immunologic Disease, 9500 Euclid Ave A50, Cleveland, OH 44022, USA. Email: mandelb@ccf.org.

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photographer opined that unique challenges may occur when obtaining patient consent for the publication of some images. All 3 of the medical photographers discussed necessary strategies in capturing high-quality images of dermatologic manifestations among patients with dark skin tones: attending to background selection and lighting as well as exposure compensation and postexposure adjustments using dedicated software such as Photoshop (Adobe Inc.). They all recognized the difficulties for clinicians trying to capture quality images and suggested that several images should always be obtained: with and without flash, from various camera angles, particularly when using phone cameras. Aware of the need to better instruct clinicians, dermatologists recently published tips for photographing cutaneous findings in patients with darker skin tones.¹²

Bae and colleagues' findings emphasize a continuing deficiency in educational materials that may adversely influence the quality of patient care.⁶ Unconscious bias, knowledge gaps, and limited clinical confidence can develop when trainees and practicing clinicians learn from and reference materials that overlook patients of color.¹³ In survey studies, medical students less frequently identified common cutaneous conditions in dark compared to light skin during a practical examination,¹⁴ and a group of rheumatologists, dermatologists, and internists reported the lowest levels of clinical confidence assessing SLE-related rashes in patients with skin of color compared to any rash and SLE-related rashes in patients with fair skin.¹⁵ Reassuringly, purposeful exposure to teaching images depicting cutaneous lesions in patients of color increased students' and clinicians' diagnostic confidence; it also demonstrated that deficiencies in medical education can be corrected.¹⁶ These studies exemplify how medical education can either contribute to or ameliorate deficiencies in clinicians' confidence and knowledge when caring for patients of color and underscore the need to mindfully reform this aspect of medical education.

Skin tone does not necessarily equate with the social constructs of race and ethnicity, weakening but not eliminating any direct link between skin color representation in educational materials and the demographic profiles and clinical outcomes of patients with rheumatic diseases.⁶ A relationship between skin tone and patient demographics exists and raises the question of how to best strengthen the association in healthcare analyses. In their paper, Bae and colleagues identify that using FST to characterize skin color is a limitation of their study.⁶ Fitzpatrick developed the skin types to classify 6 levels of skin color and their responses to ultraviolet light exposure, the latter representing a functional component that cannot be determined from the visual review of published images.¹⁷ Previous studies have also utilized this methodology,^{7,11,18} but future work would benefit from using scales that assess skin tone alone, such as the New Immigrant Survey (NIS) and the Project on Ethnicity and Race in Latin America (PERLA) skin color scales.¹⁹ The NIS and PERLA skin color scales embrace colorism, the concept that skin tone has social implications beyond that of race or ethnicity, to hopefully generate data that may represent more socially meaningful outcomes for patients of color.

To reform medical education, we first must define the extent to which patients of color are underrepresented. Such a task can appear daunting, and it may be prudent to direct efforts toward analyzing materials from professional societies, such as the American College of Rheumatology (ACR) and the European Alliance of Associations for Rheumatology (EULAR), which guide a substantial portion of rheumatology educational efforts. A trio of research studies describe the paucity of images depicting patients of color with rheumatic diseases within the ACR's Image Library, and, as Strait and colleagues identify, the ACR Core Curriculum Outline for rheumatology fellowship programs overlooks the nuances of disease presentations and management approaches among minority patient populations.^{6,10,11} Educators should review the representation of skin tones among materials used during the societies' annual conferences, in the online learning materials available through the ACR and EULAR websites, in tools used to measure clinical competence among graduate and continuing medical education learners, and in various assessment strategies such as the rheumatology in-service training and board exams. Rheumatology societies have already begun to critically assess their promotion of health equity. The ACR has also created a subcommittee to advance diversity, equity, and inclusion (DEI), and is enhancing the representation of darker skin tones in its Image Library.²⁰

Rheumatology educators also need comprehensive goals and objectives for teaching the nuanced presentation and management of patients of color with rheumatic diseases. Competencies, such as the Accreditation Council for Graduate Medical Education (ACGME) Rheumatology Milestones 2.0, CanMEDS, and EULAR's generic core competencies of health professionals in rheumatology, list skills required for independent practice.^{21,22,23} These competencies guide curricular development as well as the assessment of clinical performance. The ACGME Rheumatology Milestones and CanMEDS framework reference some aspects of providing equitable care to underrepresented patient populations, and EULAR's generic core competencies emphasize patient-centered care without itemizing health equity. Further, none of these competencies define what is expected of experienced clinicians who have been practicing independently for a period of time. In response, the Association of American Medical Colleges is currently developing competencies for DEI that, once published, will define expectations for learners across the continuum of medical education from student to practicing clinician, and CanMEDS is actively revising its framework to better integrate DEI.^{22,24} Professional societies may wish to adapt these competencies to fellows and clinicians treating patients with rheumatic diseases to best inform future rheumatology education initiatives.

Bae and colleagues provide suggestions for reforming rheumatology education, including collaborative efforts between rheumatology and dermatology educators and the use of instructional methods like interleaving to maximize learners' ability to distinguish between nuances in different skin tones.⁶ These recommendations are useful, and it is important to implement them alongside best practices for incorporating concepts about patients of color into training. Multiple frameworks exist to

guide educators in this initiative, including one by Siegel and colleagues.²⁵ First, they proposed that diversity content should be purposefully integrated into all aspects of teaching, from medical knowledge to patient care and communication skills, in all teaching environments. This facilitates knowledge and skill recall during clinical practice and prevents learners from “othering” content related to patients of color and rheumatic diseases. The scope of this recommendation encourages educators to reform materials beyond the images included in printed resources as well as to focus on other facets of instruction that may take the form of lectures, case studies, standardized patients, rheumatology objective structured clinical examinations, and bedside teaching. Second, all learners spanning the continuum of medical education should be required to learn about concepts related to patients of color and rheumatic diseases. Third, institutions should invest in faculty development to enhance educators’ teaching skills for presenting the nuances in disease expression and management of patients of color with rheumatic diseases.

In their brief report, Bae and colleagues highlight the underrepresentation of patients of color with rheumatic diseases in commonly referenced medical resources and underscore a recurring theme identified in the rheumatology education literature.⁶ This shortcoming potentially affects the care of patients of color with rheumatic diseases and may contribute to the disparate outcomes they experience. These findings should motivate rheumatology educators to assess the degree to which inequitable (even if unintentional) patient representation permeates training, to define competencies for treating patients of color with rheumatic diseases, and to implement best teaching practices to enhance providers’ clinical confidence and skills. This holistic approach to reform will improve multiple facets of education to enhance patient care and contribute to the correction of health disparities currently observed among patients of color with rheumatic diseases.

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