**EDI Practices in Dermatology**

A comprehensive review on “*The pan-JAK inhibitor delgocitinib in a cream formulation demonstrates dose response in chronic hand eczema in a 16-week randomized phase IIb trial*” (Worm et al., 2022).

Ashley Noor Khan, Nour Wael Abdelrahman, Herthika Sivasuntharampillai, Sarah Catania

**The Rationale:**

EDI (Equity, Diversity, and Inclusion) is crucial in dermatology because skin conditions often present differently across various racial and ethnic groups due to differences in skin physiology, cultural practices, and access to healthcare. Historically, dermatology research and clinical trials have disproportionately focused on lighter skin tones, leaving significant gaps in understanding and treating conditions in diverse populations. Highlighting these disparities is essential to addressing healthcare inequities and ensuring that treatments and policies are inclusive and effective across all demographic groups.

**The Purpose and Aims:**

The purpose of selecting this paper is to critically analyze existing gaps in dermatological research and practices from an EDI perspective. This involves identifying underrepresented groups in dermatology research and clinical trials, specifically in chronic hand eczema, and assessing how these gaps impact the diagnosis, treatment, and outcomes for marginalized populations. Additionally, the paper highlights the necessity of adopting intersectional approaches to address chronic skin conditions such as eczema effectively. By examining these issues, the aim is to emphasize the importance of integrating an EDI lens into the development of tools, policies, and frameworks to enhance research excellence and improve healthcare outcomes in dermatology.

**The Target Audience:**

The target audience for our review on EDI practices within dermatology includes a diverse group of stakeholders who want to advance inclusivity in medical research and practice. Researchers in dermatology who want to better integrate EDI principles into their studies will find value in understanding best practices as well as the gaps to address. Medical professionals, including dermatologists and general practitioners, can apply these findings to reduce health disparities and provide better care for patients from diverse backgrounds. Medical educators will benefit from insights that support the integration of EDI initiatives into dermatology curricula as it will foster a more inclusive approach to training future practitioners. Also, medical journal editors and reviewers can use this comprehensive review to ensure that dermatological research they publish or assess reflects inclusive and diverse practices. Lastly, dermatological patients are also an audience, as this review has the potential to directly improve the care they receive and address inequities in treatment outcomes.

**The Review:**

1. **Relevance of Research Questions through an EDI-lens:**

The research questions addressed in the paper hold significant relevance when viewed through an EDI lens, as they touch upon critical gaps in dermatology that disproportionately affect underrepresented populations. Chronic hand eczema, the focus of the study, impacts individuals from diverse backgrounds, but research has historically lacked inclusivity in terms of participant demographics, particularly regarding race, ethnicity, and socioeconomic status. These factors influence disease prevalence, treatment outcomes, and access to care.

The study's exploration of a novel treatment (delgocitinib cream) raises important questions about how such interventions are tested and whether trial populations are representative of broader patient demographics. It also indirectly prompts considerations of how underlying systemic barriers, such as unequal access to care or differences in treatment adherence across socioeconomic groups, can shape outcomes. Through an EDI lens, the research underscores the necessity of inclusive trials that account for varied experiences, ensuring that treatment advancements benefit all patients equitably. This relevance is critical for reducing health disparities and improving dermatological care for historically marginalized populations.

1. **Evaluation of the Diversity within the Study Population:**

A critical analysis of the study population in this clinical trial reveals significant concerns about diversity and representation (Worm et al., 2022). Among the participants, 1.2% were Asian, 98.4% were white, and all other races were combined into one "other" category. The participants’ demographics complexity was further limited by the fact that ethnicity was classified as either “Hispanic or Latino” or “not” (Worm et al., 2022). This underrepresentation is concerning, as individuals with darker skin may experience chronic hand eczema differently due to variations in skin pigmentation and immune response. Randomization was conducted through a central interactive web response system and stratified by region (Europe and North America). However, the geographic focus of the study leaves out participants from other regions where environmental factors, healthcare disparities, and genetic predispositions might result in different presentations and outcomes for chronic hand eczema. For example, the assessment tools may not properly capture disease severity in individuals with darker skin tones, leading to underdiagnosis (Narla, 2023). Without addressing these limitations, the study could worsen the current inequities in dermatological research. Future studies must prioritize recruitment strategies that engage diverse populations, ensuring that findings are inclusive and applicable to all individuals affected by CHE.

1. **Validated Methodological Practices across Skin Types:**

Ensuring the methodologies used in this clinical trial are validated across diverse skin types is crucial for accurately assessing and treating CHE. The *Investigator’s Global Assessment for Chronic Hand Eczema* (IGA-CHE) is a five-point scale used to measure the severity of CHE, ranging from 0 = ‘clear’ to 4 = ‘severe’. In a validation study by Silverberg et al., (2024), the IGA-CHE demonstrated strong validity and the ability to detect meaningful changes in CHE severity. However, the study’s sample was predominately white participants (88.2%), with most participants classified as Fitzpatrick skin types II and III (43.2% and 41.1%, respectively) (Silverberg et al., 2024). We wanted to note an issue here as the Fitzpatrick classification uses melanin levels to classify skin types from I to VI (*Skin Phototype (Fitzpatrick Skin Type)*, 2023), but there is a lack of representation of darker skin types (i.e. IV to VI), totalling to less than 11% of participants (Silverberg et al., 2024). The researchers who validated the IGA-CHE noted the importance of validating the IGE-CHE is more diverse populations and stated this was a limitation of their study (Silverberg et al., 2024).

The *Hand Eczema Severity Index* (HECSI) was another methodology used in Worm et al.,'s (2022) clinical trial to evaluate CHE. The tool divides the hand into five anatomical areas (fingertips, fingers, palms, back of hands, and wrists) and assess six clinical signs (erythema, induration, vesicles, fissures, scaling, and edema) using a 4-point severity scale from 0 = ‘none’ to 3 = ‘severe’ (Silverberg et al., 2024). In a validation study by Held et al., (2005), the HECSI demonstrated strong intra- and interobserver reliability, meaning it consistently produced accurate results when assessed by the same or different observers. However, the study’s sample only consisted of 15 patients recruited from two dermatology clinics in Copenhagen, Denmark, suggesting a primarily European/White population (Held et al., 2005).

After reviewing the validation studies of the tools Worm et al., (2022) heavily relied on to test their drug, *delgocitinib*, we see there is a shared limitation of both of these tools. They both lack validation across diverse skin types. This is significant as symptoms of CHE, such as erythema, can present differently in individuals with darker skin tones due to variations in melanin. This could potentially lead to inaccuracies in diagnosing and assessing the severity of CHE. Future work must address these gaps to ensure both tools are accurate for assessing CHE across all skin types.

1. **Recommendations for Future Dermatological Research Papers:**

 Future dermatological studies should prioritize equity and inclusivity by implementing several key recommendations. First, diversifying the study population is essential, with efforts to recruit participants from underrepresented racial, ethnic, and socioeconomic backgrounds. Collaborating with clinics serving diverse communities, particularly those in lower SES areas or high-risk occupational settings, can ensure the study population reflects the true global burden of chronic hand eczema (CHE). To further enhance inclusivity, studies should address barriers to participation, such as transportation, childcare, or the inability to take time off work, by providing logistical support or offering remote participation options (Chen et al., 2022).

Additionally, it is crucial to validate assessment tools like IGA-CHE and HECSI across a range of skin tones to ensure diagnostic and treatment accuracy. This is especially important in global studies, where symptom presentation and skin type diversity vary significantly (Ongoro, 2023). Exploring occupational and regional disparities, such as how specific exposures or environmental factors contribute to CHE, could help identify tailored treatment strategies for high-risk groups like healthcare workers or food service employees. Incorporating qualitative data, such as interviews or surveys, would provide a deeper understanding of how CHE affects different demographic groups, uncovering disparities in disease burden, access to care, or treatment effectiveness that may not be evident through quantitative measures alone. Transparent reporting of demographic data, including race, ethnicity, SES, and their intersections, is also critical. Avoiding overly broad categorizations like "Other" and analyzing intersectional factors can offer a more comprehensive view of CHE’s impact on diverse communities.

Addressing these underlying factors can inform targeted interventions that reduce health disparities and improve outcomes for marginalized populations. By adopting these recommendations, dermatological research can become more inclusive and equitable, ultimately leading to more effective and representative solutions for all.

**Implications:**

The implications of this review emphasize the transformative potential of incorporating equity, diversity, and inclusion (EDI) into dermatological research, education, clinical practice, and policy. Addressing EDI not only highlights the existing gaps in dermatological studies but also serves as a foundation for reducing health disparities and improving outcomes for marginalized populations.

In clinical practice, increased representation of diverse skin types is critical to enhancing diagnostic accuracy for conditions such as eczema, which may present differently on darker skin tones (Ongoro, 2023). Misdiagnosis or underdiagnosis, often stemming from tools and methodologies that lack validation across skin types, can lead to delayed or ineffective treatment (Ongoro, 2023). Addressing this ensures that all patients receive appropriate and timely care. Additionally in research inclusive studies strengthen the validity and generalizability of findings. When trial populations fail to reflect the demographic of those affected by a condition, treatment advancements may disproportionately benefit certain groups while neglecting others (Kelsey et al., 2022). Ensuring that diverse populations are included in trials fosters equitable access to new therapies and better captures the complexity of conditions across racial and ethnic groups. In education, integrating EDI into medical training equips practitioners to provide culturally sensitive care and enhances their ability to recognize and address dermatological conditions across skin types. This approach builds trust and improves health outcomes for marginalized populations, particularly those who have historically been underserved in dermatological care (Kelsey et al., 2022). Finally, in policy, EDI advocacy influences regulatory standards by encouraging inclusive practices in clinical trials and research. This ensures that future dermatological advancements benefit all individuals equitably and support systemic change to reduce healthcare inequities.

This review underscores the necessity of adopting an EDI lens in dermatological research and practice to create meaningful, long-term improvements in healthcare outcomes for all populations.

**The Broader Impact:**

Overall, this review emphasizes the importance of EDI principles in dermatological research, clinical practice, and policymaking. It highlights the need for more inclusive study designs that reflect diverse populations and validates tools like the IGA-CHE and HECSI across all skin types for equitable diagnoses and treatments.

Clinicians can use these findings to adopt methods that better serve marginalized communities, improving accuracy and outcomes. Additionally, the review advocates for policies requiring diverse participant pools in clinical trials, promoting inclusivity in research advancements.

By addressing EDI gaps in hand eczema studies, this work fosters health equity, challenges systemic biases, and sets a standard for prioritizing diversity in future research and care.

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