

Racial Representation in Melanoma YouTube Videos

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INTRODUCTION

Melanoma, the fifth most common and most lethal skin cancer globally, significantly contributes to cancer mortality.^{1,2} In 2023, estimated new cases are projected to surge to 97,610.² Despite a higher incidence in non-Hispanic White populations, melanoma more adversely affects racially diverse groups due to later-stage diagnoses and advanced disease presentation.^{2,3} African American patients demonstrate a lower 5-year survival rate (69.8%) compared to Whites (93.1%).^{1,3}

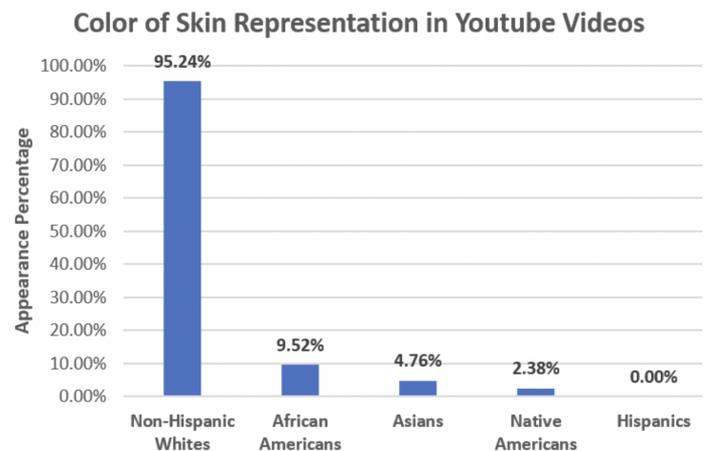
Public health education often sidelines diverse racial and ethnic populations, exacerbating these disparities.³ The reliability of information on YouTube, particularly due to its lack of regulatory oversight has garnered concerns.³ This study assesses melanoma information on YouTube, emphasizing the representation of diverse racial and ethnic populations and underscoring the importance of comprehensive health information.

On March 23, 2023, a YouTube search for "What does melanoma look like" generated 56 English videos ranked by views. Inclusion criteria encompassed videos addressing melanoma with images of the condition. Videos lacking melanoma imaging (N=14), were excluded due to the inability to be evaluated for representation. The remaining 42 videos were reviewed based on (1) number of views, (2) depicted racial/ethnic group, and (3) presenter's medical credentials. Three independent reviewers, trained in data extraction, confirmed data accuracy, with discrepancies resolved through a majority vote.

Statistical analysis computed and compared the representation of racial/ethnic groups (Non-Hispanic White, African American, Asian, Native American, and Hispanic) and average views using two-tailed Z-tests and T-tests, respectively. The proportion of videos made by medical professionals — defined as board-certified physicians, nurses, nurse practitioners, and physician's assistants — versus non-medical professionals were assessed using a two-tailed Z-test.

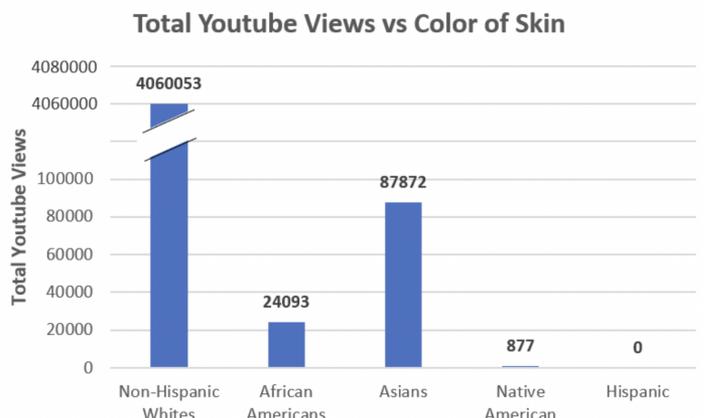
Among the evaluated videos, 71.43% (n = 30) were presented by medical personnel, while the remainder were personal narratives (z-score 3.7108, $P < 0.002$). Non-Hispanic Whites were featured in 95.24% of the videos, significantly overrepresented

FIGURE 1. Appearance percentage of Non-Hispanic White, African Americans, Asian, Native American, and Hispanic skin of 42 YouTube videos.



compared to all other racial/ethnic groups (z-score 7.2528, $P < 0.00001$), as illustrated in Figure 1. Non-Hispanic White-centric videos averaged 101,501 views per video, while videos featuring racially and ethnically diverse individuals averaged 16,120 views per video ($P < 0.00463$), as depicted in Figure 2.

FIGURE 2. Total YouTube views of Non-Hispanic White, African American, Asian, Native American, and Hispanic skin videos.



Our analysis underscores a significant health inequity: melanoma identification videos on YouTube inadequately represent diverse skin types, suggesting a need for better education in darker-skinned populations. Late-stage melanoma diagnoses, more common in diverse racial and ethnic individuals, underscore the need for easily accessible, representative online resources.³

Our data unveils a considerable underrepresentation of diverse skin types, which impedes access to healthcare information. Information tailored to diverse populations could raise melanoma awareness, reducing health disparities. The imperative for diverse representation in health resources, including YouTube, is clear. Yet, YouTube's lack of a regulatory body presents a challenge, and more efforts are necessary to fairly represent diverse racial/ethnic groups, promoting health equity.³

Our results suggest that videos featuring diverse individuals garner fewer views, potentially due to unintentional algorithm biases favoring content featuring non-Hispanic Whites. The influence of user keyword searches and video tags on algorithms raises concerns about representational imbalances. Further research is needed to probe potential algorithmic biases and implement remedial measures if identified.

Our study bears some limitations. We did not assess the informational accuracy or specify the types of providers presenting each video. Additionally, as we relied on a single search term, other pertinent videos might have been missed. Future research could expand search terms to mitigate this limitation.

YouTube has immense potential as an accessible, cost-effective health resource. This study underscores YouTube's potential for addressing healthcare disparities through patient education. We call on healthcare professionals, digital platforms, and policy-makers to work collectively in ensuring the dissemination of accurate, representative melanoma information. By doing so, we can improve health literacy among diverse racial and ethnic patients, enhancing the overall equity and quality of public health education.

DISCLOSURES

Dr Adotama is a consultant for Janssen and an Investigator for Argenx. Dr Lo Sicco has been an investigator for Regen Lab and is an investigator for Pfizer. Dr Lo Sicco is a consultant for Pfizer and Aquis. SLR, RJV, LTP, KMP, and MGB have no conflicts to disclose.

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