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Does Disparity in Educational Material Contribute to Melanoma Mortality?



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Introduction

Cutaneous Melanoma is a Fatal Skin Cancer with an increasing incidence. Data found on this disease in the SEERs Database demonstrates:

In the Caucasian Population, 83.9% are diagnosed at the localized stage and the combination of regional spread and distant metastasis accounts for only 12.5% of the disease.

In Hispanic and African American Populations localized disease accounts for 72.5% and 56% respectively.

Also the combination of regional spread and distant metastasis represents 22.3% in the Hispanic population and 35.8% in African Americans.

The stage of the disease at the time of diagnosis significantly impacts survival rate with 98.4% survival if diagnosed at the local stage and only 18% survival if diagnosed with distant metastasis.

Hypothesis

The lack of diversity in images in medical textbooks related to cutaneous melanoma may contribute to this disparity.

Method

- This study evaluated pictorial representation of melanoma in commonly used medical educational material in dermatology and oncology.
- Three reviewers each evaluated 129 images of melanoma from 7 textbooks.
- The reviewers rated the skin tone of each image according to The Fitzpatrick Skin Tone Scale.
- Each reviewer was blinded to the other reviewers results.
- The 6 Skin Types were grouped into 3 Categories; Type 1 and 2 were Group A, type 3 and 4 were Group B and type 5 and 6 were Group C.

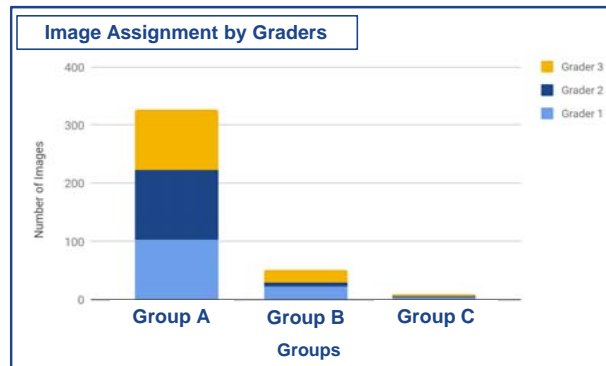
The Fitzpatrick Skin Type Scale



Results

A total of 387 Images Reviewed by Reviewers | 327 Images Classified as Group A, | 51 as Group B | 9 as Group C

Distribution of Images in Skin Tone



The Average Scores of Images For Each of The Reviewers

Reviewer	N	Mean Fitzpatrick Score
1	129	1.87
2	129	1.65
3	129	1.88
Total	387	1.8

Conclusion

The results of this pilot study demonstrate that there is a significant tendency toward lighter skinned images to portray skin pathology, specifically cutaneous melanoma.

Discussion

The lack of diversity in medical images of cutaneous melanoma raises the question of whether this contributes to the noted disparity in the stage at diagnosis in the African American and Hispanic population. If the medical community is not adequately trained to identify lesions in darker skinned individuals, it's likely harder to diagnose and often found at a later time and stage. Other factors may contribute to disparity in diagnosis including issues around access to care, awareness of illness, genetic variations or location and type of melanoma. However the data presented here in conjunction with disparity in advanced stages of cutaneous melanoma at the time of diagnosis requires further examination of the diversity in images of dermatologic conditions in medical education materials. The next step in this process more comprehensive research that includes more educational materials and more graders. Additionally, other pathology should be evaluated.

References

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