

HOSA

HOSA Chapter and Division:
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The Relationship Between the Lack of Representation of Black Individuals in Dermatology and the Statistics of Black Individuals With Melanoma in Alabama.

Abstract

The population of ethnic groups is constantly increasing and research suggests that “the knowledge of the growing ethnic minority proportion of the US population underscore the need for a vigorous assessment of medical education to ensure dermatologists are adequately prepared to provide quality care to patients of diverse racial and ethnic backgrounds.”(Buster & Elmets, 2016). Accumulating research indicates that teaching materials do not properly represent darker skin tones, dermatology textbooks, ebooks, and popular sources (Alvarado & Feng, 2021). The purpose of this study is to investigate the relationship between the lack of representation of black patients in dermatology and statistics of black patients with melanoma in Alabama. The results of the study indicate that there is little representation of black individuals in the recommended textbooks of medical schools. The results also indicated that White individuals had a higher mortality-to-incidence ratio (MIR) compared to Black individuals which meant that White individuals had a higher survival rate. Therefore, it is essential to increase the number of images of black individuals in textbooks to increase the survival rate of black individuals with melanoma

Methods

A study was conducted to determine the relationship between the lack of representation of darker-skin toned patients in healthcare and the MIR of Black patients with Melanoma in Alabama. Melanoma was chosen because the cancer presents differently in darker and lighter skin tones and statistically has a lower survival rate in darker skin tones despite the lower incidence rate. Two medical schools were chosen in Alabama. Four recommended textbooks that pertained to Dermatology were analyzed to determine how many skin of color images were used each the textbook. The textbook’s images were categorized as light skin images, dark skin images, or intermediate. Once the results were collected, the data was examined along with the MIR of Black and White individuals with melanoma to find any relationship between the two variables. The MIR was calculated by dividing the mortality rate by the incidence rate. A correlation was also performed with the two data sets. The mortality rates used in the experiment were from 2009-2018 as no other data had been released for public knowledge. An estimate for the 2021 incidence rate was also recorded. The data was compiled and evaluated for reasoning and results.

Results

- In the textbooks being analyzed, it was found that an average of merely 13.6% of the images presented in the textbooks showcased images of black individuals.
- The MIR for White individuals was found to be .12 while the MIR for Black individuals was found to be .45.
- The mortality rate of Black and Hispanic individuals with melanoma in Alabama was found to be .4% per 100,000 individuals from 2009-2018. The estimated number of melanoma cases to occur in 2021 accounting for all races is estimated to be 1,590.
- There was a strong negative correlation between the representation in textbooks and MIR.

Textbook	Total Images	Number of Images of Light Skin	Number of Images of Dark Skin	Number of Images of Intermediate Skin	Percent of Images of Dark Skin (%)
<i>Andrew’s Diseases of the Skin</i>	372	295	74	3	19.9
<i>Dermatology, 4th edition</i>	748	634	99	15	13.2
<i>Fitzpatrick’s Dermatology, 9th edition</i>	516	428	78	10	15.1
<i>Fitzpatrick’s Color Atlas and Synopsis of Clinical Dermatology, 8th edition.</i>	426	395	26	5	6.1

Correlations

	Representation	AL MIR
Representation	Pearson Correlation	1
	Sig. (2-tailed)	<.001
	N	8
AL MIR	Pearson Correlation	-.991**
	Sig. (2-tailed)	<.001
	N	8

** . Correlation is significant at the 0.01 level (2-tailed).

White Individual MIR	0.12
Black Individual MIR	0.45

Conclusions

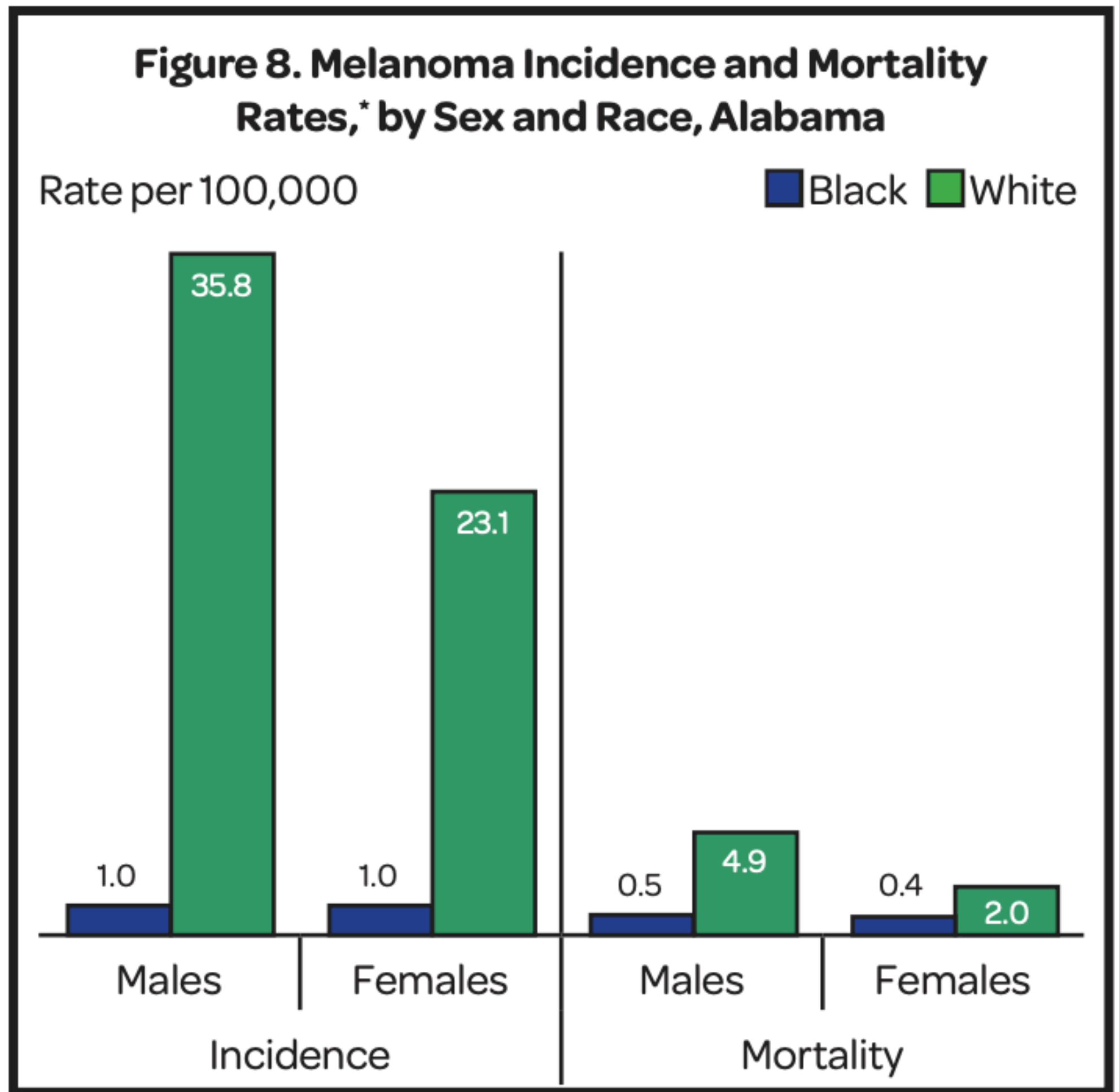
Even though this study only analyzed one region, studies have revealed that many other regions of the United States also have lower representation of black individuals and have a significant relationship between the statistics of melanoma and representation in textbooks. Furthermore, finding specific survival rates and diagnosis times of melanoma in Alabama would have made this study stronger. However, they were not available for this study. Black individuals have been found to have a lower risk of developing melanoma compared to lighter-complexioned individuals. Based on the results, White individuals had a lower MIR, indicating a better chance of survival while Black individuals had a high MIR. Furthermore, the strong negative correlation indicates that as the representation in textbook increases, the MIR decreases (a higher chance of survival). Therefore as representation increases, so does the likelihood for a better chance of survival in a cancer. A lack of representation within medical school curricula may contribute to this result because physicians may diagnose melanoma at a later stage because they are not exposed to the presentation as much, making the melanoma more difficult to treat. Therefore, it is necessary to increase the representation of black individuals to aid physicians in providing an earlier diagnosis. The increased representation may help physicians understand how melanomas affect black individuals.

References

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*Malignant only, per 100,000 and age-adjusted to the 2000 US standard population.
 Source: Alabama Statewide Cancer Registry, 2021. Cancer Incidence (2014-2018), Cancer Mortality (2009-2018).

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