

# Eyes & Ethnicity

Racial background can affect eye health, but does it affect eye treatment?

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## Introduction

In the Texas national average, African Americans are 20% more likely to develop glaucoma than any other race or ethnicity. African Americans have the exact same reaction to glaucoma treatments and surgeries when compared to any other ethnicities.

While shadowing at Outlook Eye and Laser Center, I observed that African American patients are disproportionately affected by glaucoma, a common eye disease that damages the optic nerve and can lead to vision loss if untreated. Although treatment is typically straightforward, African Americans are about 20% more likely to develop it, and it progresses faster. This disparity raises concerns about both its prevalence and potential resistance to treatment.

## Methodology

I collected glaucoma patient data from the Outlook Eye and Laser Center across a wide range of ages, time periods of patient visits, and backgrounds. For African American patients, I ensured diversity in region, health history, and disease severity. For non-African American patients, I included multiple ethnic groups with similar variation. Patients lacking demographic information were excluded, and both groups were compared based on treatment success rates and additionally age of treatment.

Figure 1

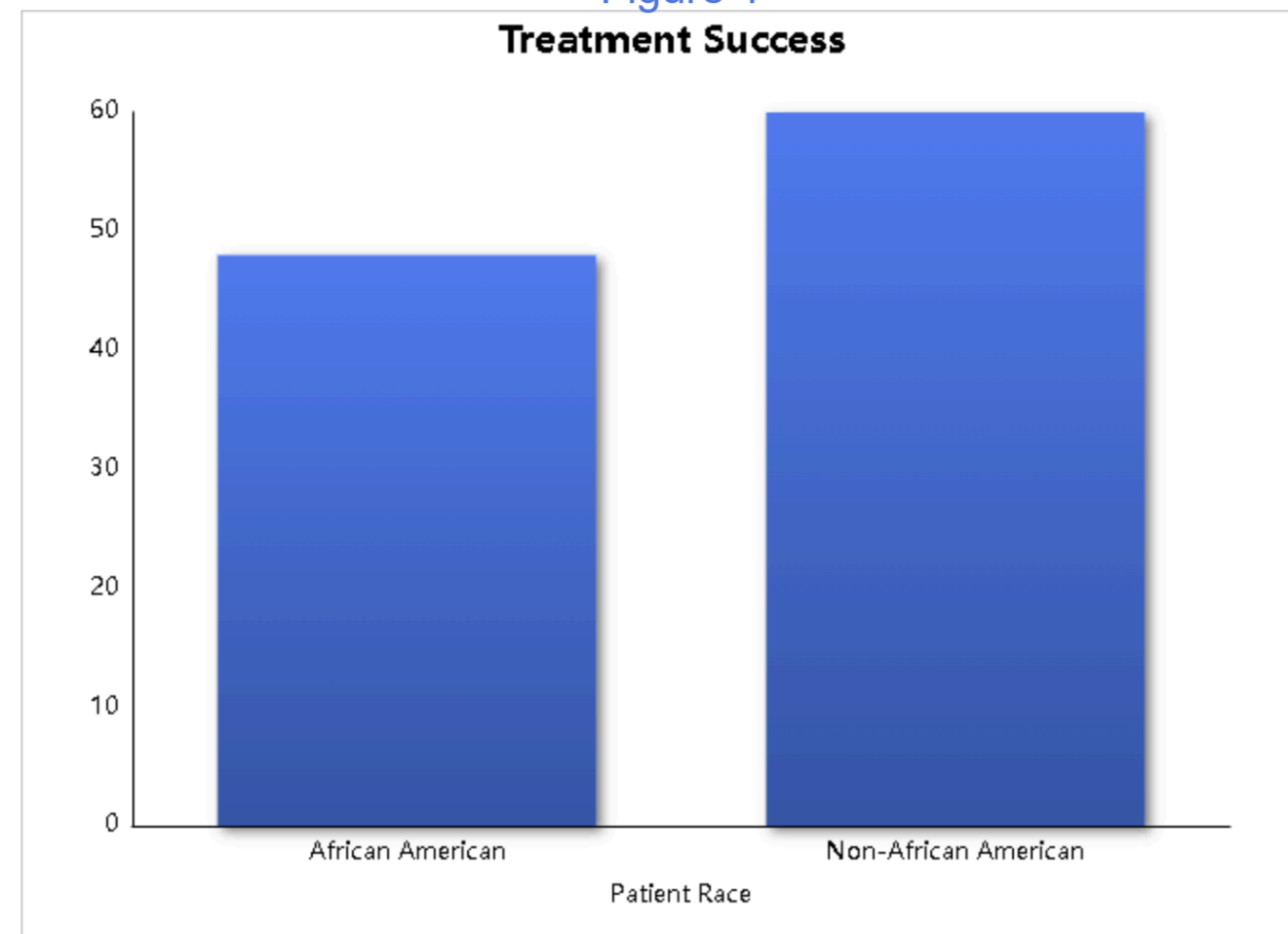
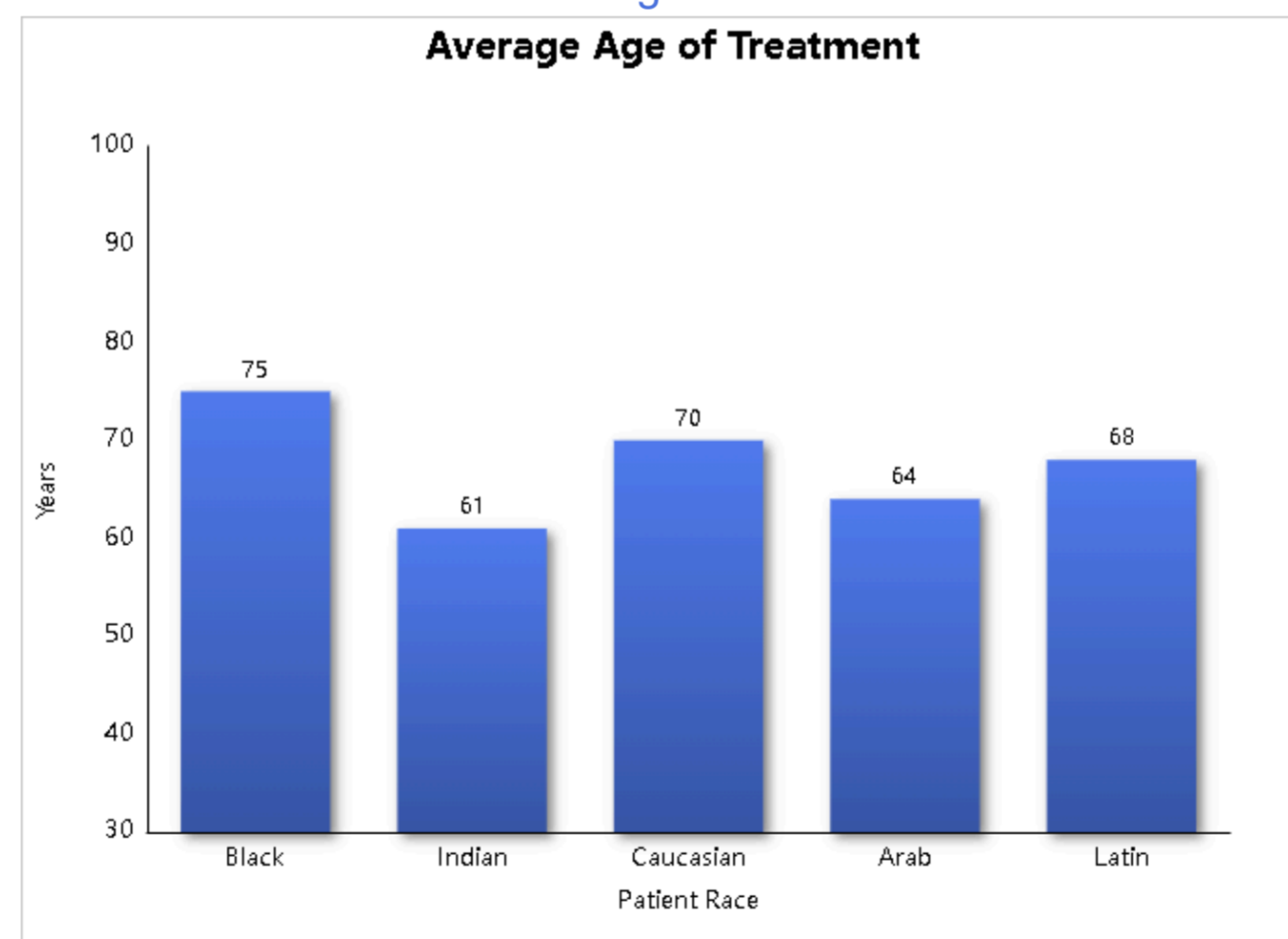


Figure 2



## Results

According to the data collected here, we can see that there is a roughly equal treatment rate between African Americans and Non-African Americans. Figure 1 shows that 48 African Americans had responded well to the treatment and 60 Non-African Americans responded well to the treatment. The only difference within the data is that there were simply more patients that were Non-African Americans.

Depicted in Figure 2, we can see that African Americans/Blacks have a significantly higher age of getting glaucoma treatment compared to other ethnic groups.

## Conclusion

I acknowledge limitations in my research, including relying on visual identification when demographic data was missing and using a patient pool from only one clinic, which may affect accuracy. Despite these constraints, the results showed similar effectiveness of glaucoma treatments across all ethnic groups, suggesting no difference in how patients respond to care. This challenges my initial hypothesis that African Americans require more intensive treatment. Now, it raises the possibility that higher rates of glaucoma may be influenced by non-genetic factors such as socioeconomic factors.

## References

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