

# Prevalence of Ocular Pathologies at the Kansas City Free Eye Clinic

## Introduction

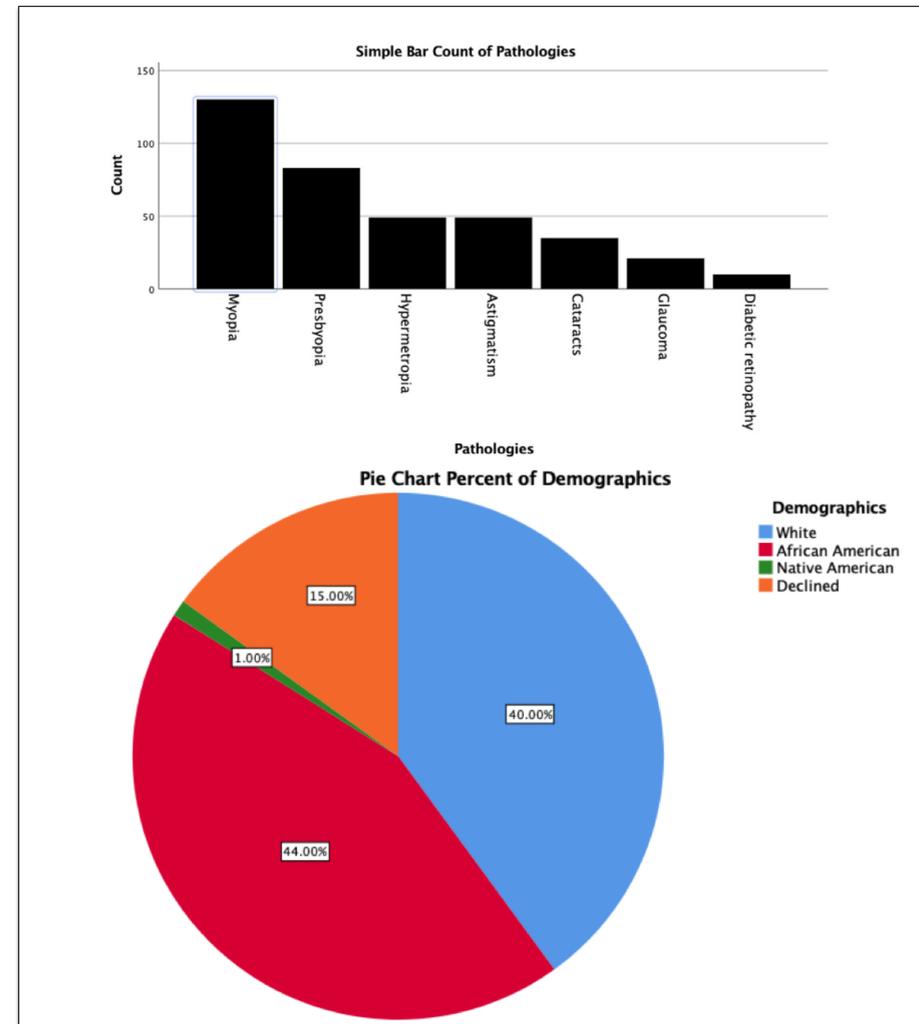
- Vision plays a central role in overall health and quality of life. In fact, almost 50% of Americans surveyed in a nationwide poll in 2014 rated losing vision as the “worst possible health outcome” (1).
- Additionally, major lapses exist in public education regarding common eye diseases, such as glaucoma, cataracts and diabetic retinopathy. Despite this fear and lack of education, very few free clinics exist that are aimed at educating and treating patients with eye diseases. This may be attributed to eye-related complications often requiring specialized training and equipment that many free clinics cannot afford (2).
- Nevertheless, a large-scale public health approach is required to address the growing ocular-related problems that the public faces. The purpose of this study is to identify the prevalence of eye conditions present in the homeless population of Kansas City in order to characterize the eye-care needs of the community.

## Methodology

- Data was gathered via AthenaNet electronic medical records of 342 patients seen at The Kansas City Free Eye Clinic (KCFEC) from August 19, 2017 to October 22, 2018.
- Demographic information and diagnoses from all patients seen at KCFEC were analyzed for the most common diagnoses. All data were analyzed using SAS 9.4 (2012 SAS Institute Inc., Cary, NC).

## Results

- The demographics of this study include a mean age of 45.4 +/- 13.6 years, 59% male and 41% female. The race distribution in this population was 40% white, 44% African American, 1% Native American, and 15% of patients declined to respond.
- Among this cohort of patients, there were 130 with myopia (38.0%), 83 with presbyopia (24.3%), 49 with hypermetropia (14.3%), 49 with astigmatism (14.3%), 35 with cataracts (10.2%), 21 with suspect glaucoma (6.1%) and 10 with diabetic retinopathy (2.9%).



## Summary/Conclusion

- In this homeless population, issues of refractive error are the most frequently encountered concern, followed by cataracts, glaucoma, and diabetic retinopathy in decreasing frequency.
- In comparison to data collected by the NHANES 1999-2004, KCFEC sees similar rates of myopia, increased rates of hypermetropia (+10.7%), and decreased rates of astigmatism (-21.9%).
- The prevalence of diabetic retinopathy among all ocular pathologies in this population is 2.9% while national prevalence is at (3%), as estimated by the American Diabetes Association and the NHANES in 2006 (4). Of note, all cases of diabetic retinopathy in this study were of the mild non-proliferative type, which does not necessitate treatment beyond glycemic control.
- Uncorrected refractive error is the leading cause of visual impairment and the leading cause of blindness worldwide with significant disability and burden, especially in lower socioeconomic populations (WHO).
- KCFEC is equipped to serve the needs of this population. It provides basic refractive correction for two out of every three diagnoses. Cases which necessitate more serious interventions, such as cataracts, glaucoma, and diabetic retinopathy, are referred to a community hospital or other free health clinics for management.
- Strengths of the study are its large sample size and unique mission of the KCFEC clinic. Limitations of this study include the electronic health record (EHR), whose format was unable to discern between patients with multiple diagnoses or comorbidities, possible limitations of our diagnostic evaluations, and potential reporting errors in data entry.

## References

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