**Title:** Ethnic and Racial Differences in Prevalence of Meibomian Gland Dysfunction within the Older Population

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**Background:** Meibomian gland dysfunction (MGD) is the principle cause of evaporative dry eye disease (DED), and is a main cause of discomfort in older adults. However, little research has been done regarding the racial and ethnic differences in the prevalence of MGD, and few studies have reported the MGD prevalence rates in older age groups. The objective of this study is to investigate the prevalence of MGD in older adults of various ethnic and racial populations in a large academic healthcare network.

**Methods:** In our retrospective chart review, healthcare records of living patients aged 50 and older that had a clinical encounter within the UNC Ophthalmology system were obtained from the Carolina Data Warehouse for Health. This study encompassed patient records from April 4, 2014 to July 23, 2017. ICD and EMR codes for MGD and MGD spectrum disorders were used to obtain demographic information from this data. Subjects were categorized by sex, age, ethnicity, and race. Prevalence rates and 95% confidence intervals for each race and ethnicity were calculated.

**Results:** Out of 19,314 eligible patients who were seen at UNC Ophthalmology clinics, 2,002 patients were diagnosed with MGD. The highest prevalence rates of MGD were reported in Asians (10.20%; 95% CI, 7.58-13.59) and Caucasians (13.20%; 95% CI, 12.60-13.83), whereas African Americans displayed the lowest prevalence rate (5.56%; 95% CI, 4.87-6.34). With increasing decades of age, prevalence rates significantly increased from 7.72% (95% CI, 7.06-8.43) in the 50-59 age group to 13.71% (95% CI, 12.33-15.24) in the 80-89 age group.

**Conclusion:** MGD varies in prevalence based on race and ethnicity, while also increasing with age. The likelihood of developing MGD with increasing age will be a potential focus for future study. Further investigation is needed to delineate the association between race and ethnicity and the risk of developing MGD.