



Prevalence of Central Serous Chorioretinopathy at the Illinois Eye Institute before and during the COVID-19 Pandemic

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PURPOSE

Central Serous Chorioretinopathy (CSCR) is a retinal disorder related to the dysfunction of the retinal pigmented epithelium (RPE) layer that allows choroidal fluid to enter the retina. With this subretinal fluid accumulation, there is a chance of permanent decrease in visual acuity and visual distortion that impacts activities of daily living. Increased levels of stress show to be a significant risk factor in developing CSCR. It has also been well documented that stress levels have increased since the COVID-19 pandemic emerged. Therefore, it is possible that there might have been an increase in CSCR cases during the COVID-19 pandemic compared to the preceding year; this observational study investigates how the prevalence of CSCR has changed since the onset of the COVID-19 pandemic.

METHODS

A retrospective chart review of electronic medical records at the Illinois Eye Institute was conducted. Cases were identified into two groups: pre-COVID pandemic (June 2018-February 2020) and during the pandemic (March 2020-November 2021). Any other causes of serous edema were excluded. Demographic data including age, race, sex, self-reported stress and steroid use were recorded and compared between the two groups. Descriptive analysis and t-tests were performed. All statistical analysis was completed using SPSS V27.

RESULTS

A total of 26 patients were identified, 11 patients with CSCR in the pre-COVID pandemic group, and 15 patients during the pandemic group. A majority of patients in both groups were between the ages of 40-65 years old (72.7% pre-pandemic, 73.3% during pandemic). All patients (100%) in the pre-pandemic group were males and 80% of patients in the during pandemic group were males. Overall, there was no significant difference ($p>0.05$) between the prevalence of CSCR before and during the pandemic. From pre-pandemic to during the pandemic, there was an

FIGURE 1

Prevalence of CSCR pre-pandemic (June 2018-February 2020) and during the pandemic (March 2020-November 2021)

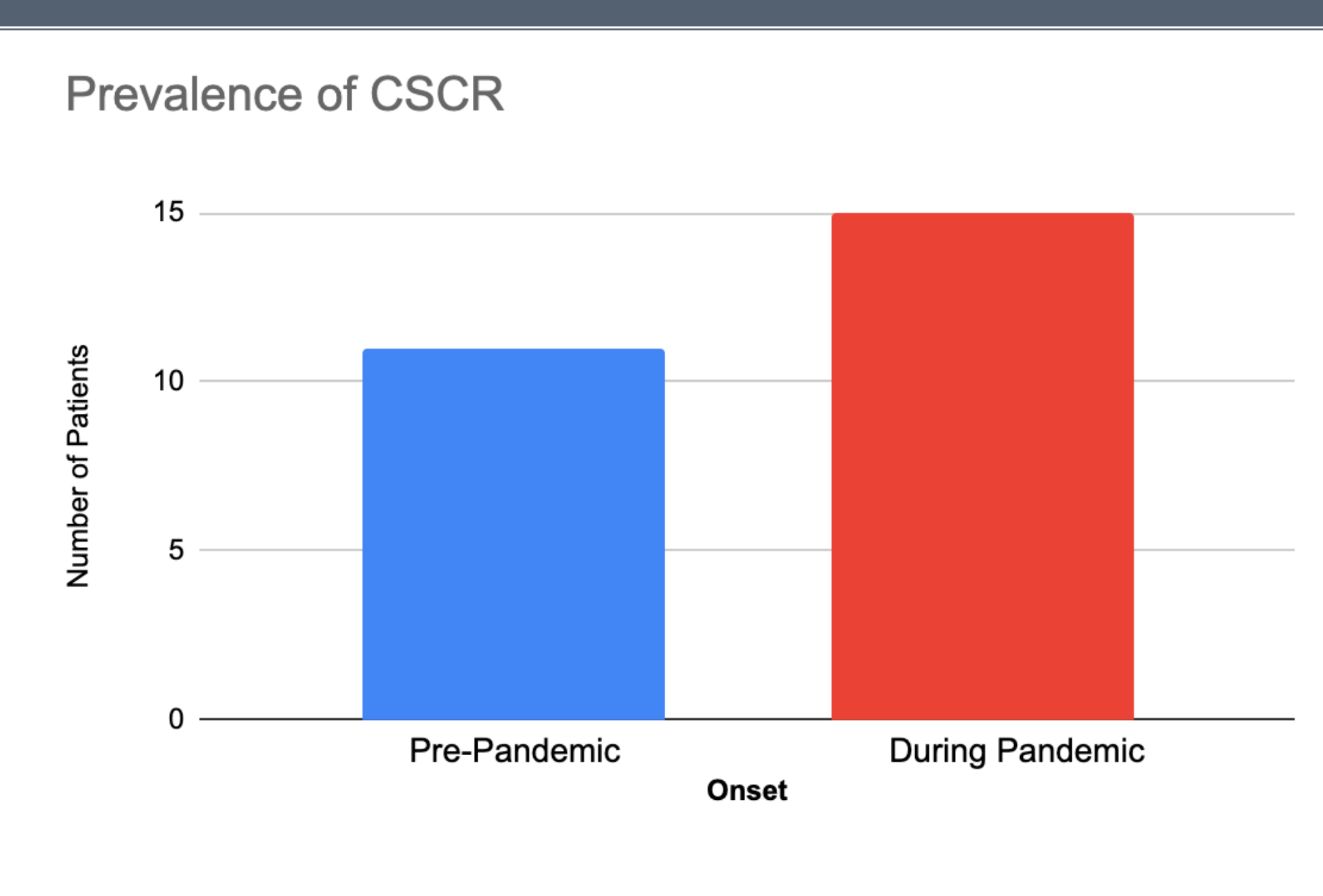


FIGURE 2

From pre-pandemic to post-pandemic, there was an increase in stress (from 27.3% to 40%) and an increase in steroid use (from 18.2% to 33.3%) self-reported among patients, however both were non-significant ($p=0.509$, $p=0.399$, respectively)

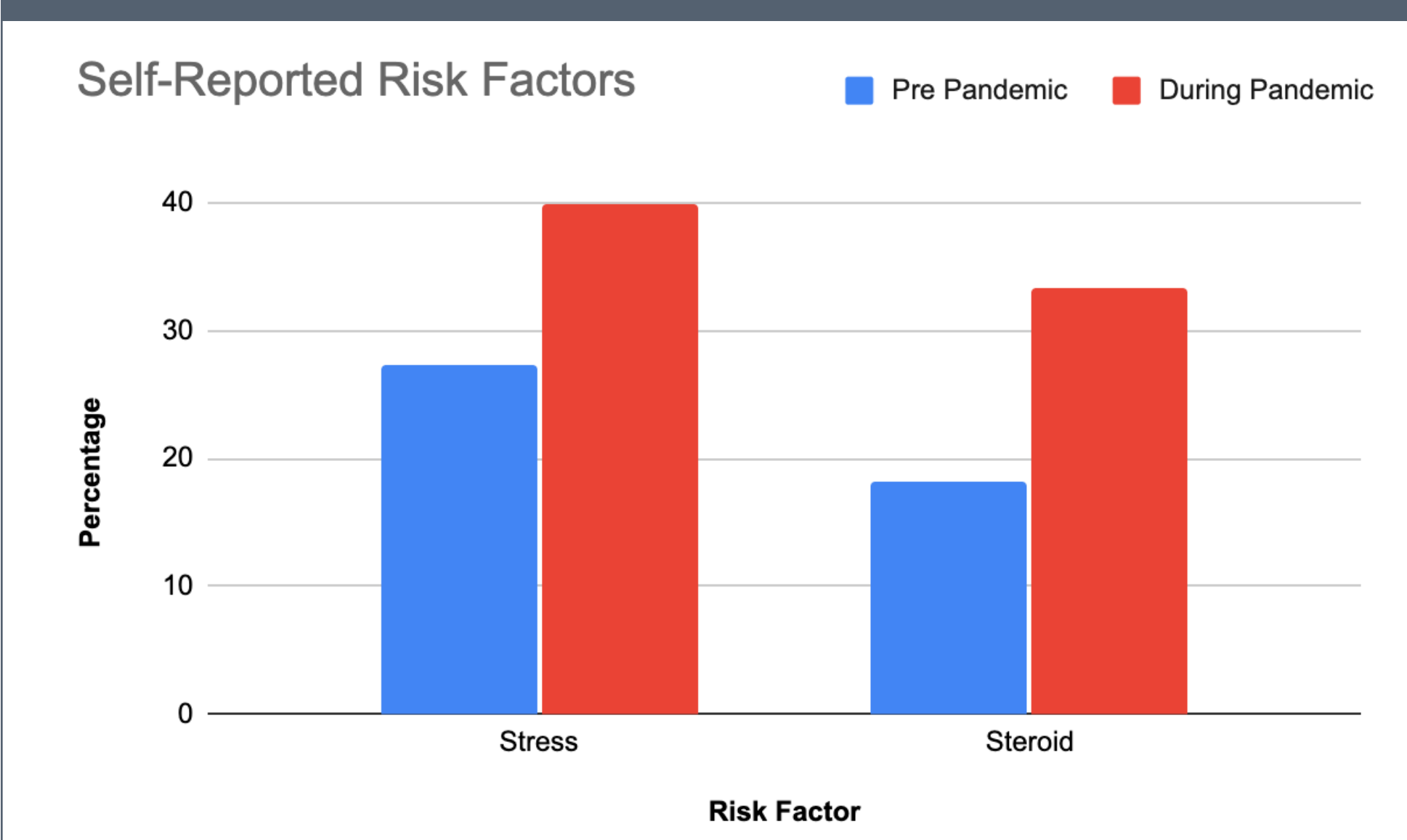


FIGURE 3

Combining the data from pre pandemic and during the pandemic; Unspecified followed by African American showed the highest number in CSCR prevalence and Native American Indians showed the lowest number in CSCR prevalence. African American race group leading the prevalence numbers is likely due to the patient population seen at Illinois Eye Institute consisting majority of African Americans

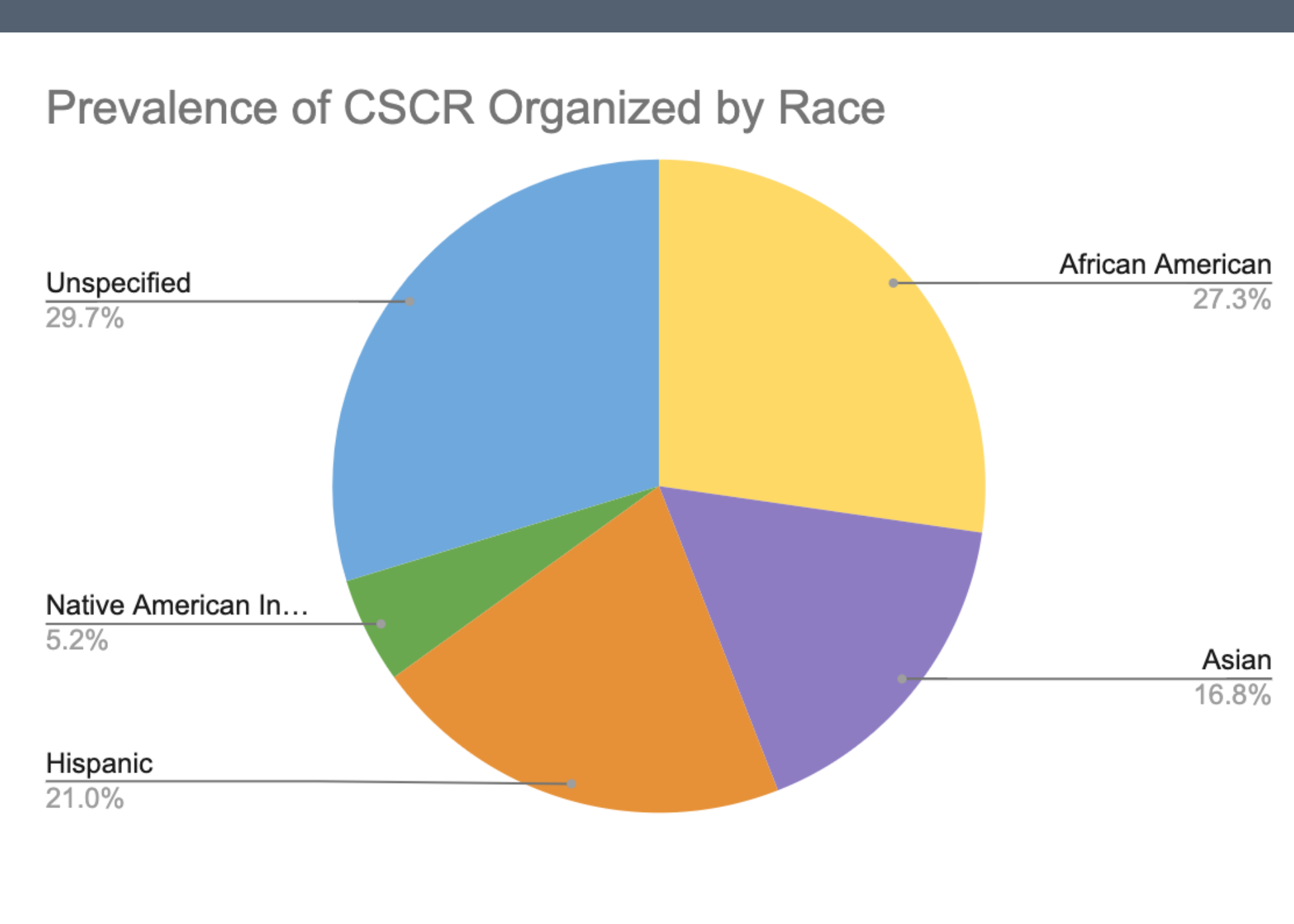


FIGURE 4

A classic presentation of CSCR as imaged with SD-OCT

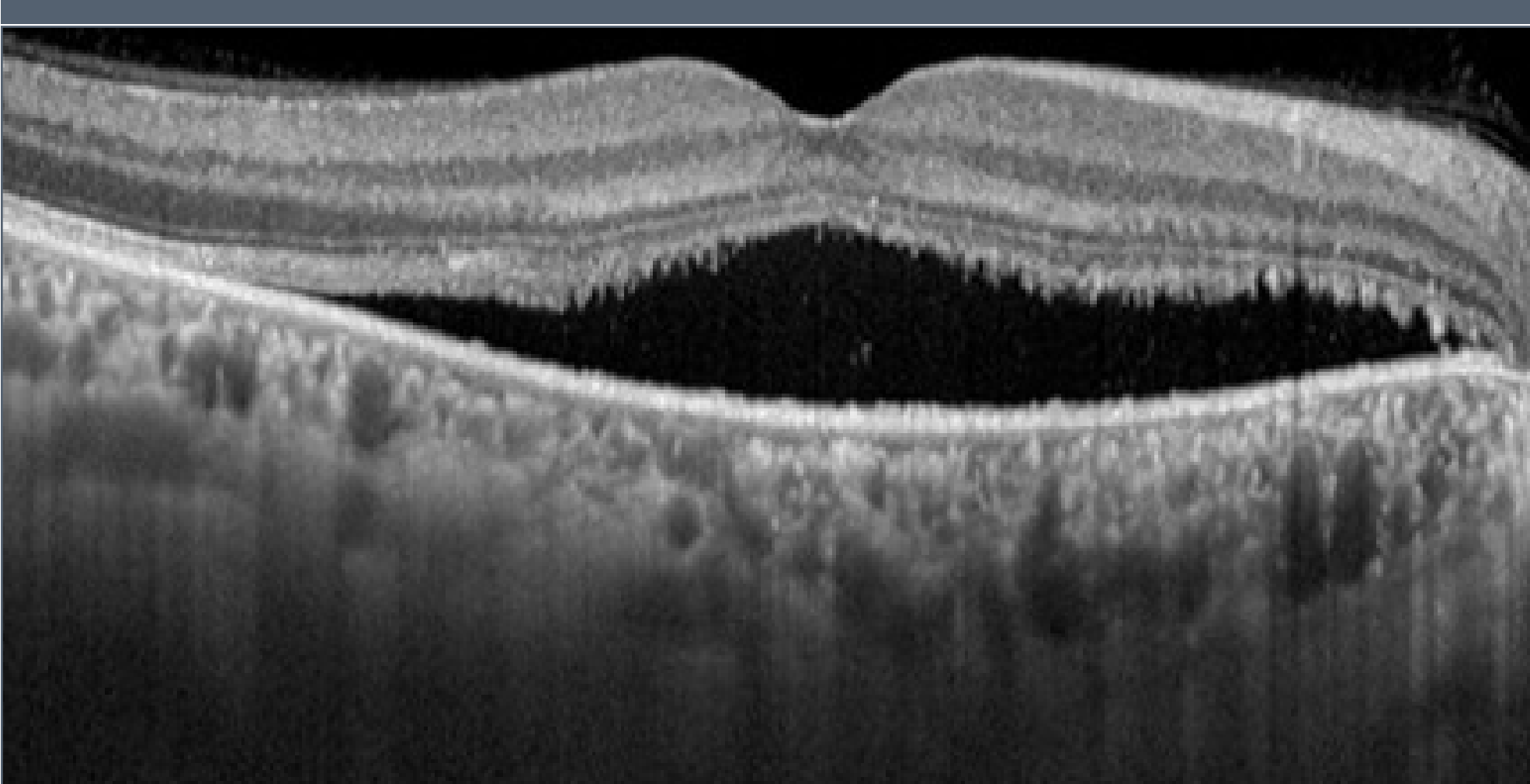


TABLE 1

The above tables are a breakdown of the data regarding gender and various age groups comparing individuals with CSCR at IEI pre-pandemic and during pandemic

Gender	Pre- Pandemic	During Pandemic
Male	11 (100%)	12 (80%)
Female	0 (0%)	3 (20%)

Age Group	Pre-Pandemic	During Pandemic
0-17 yo	1 (9.1%)	0 (0.0%)
18-39 yo	1 (9.1%)	3 (20.0%)
40-64 yo	8 (72.7%)	11(73.3%)
65+ yo	1 (9.1%)	1 (6.7%)

increase in stress (from 27.3% to 40%) and an increase in steroid use (from 18.2% to 33.3%) self-reported among patients, however both were non-significant ($p=0.509$, $p=0.399$, respectively). A sample size power analysis showed that a sample size of 103 patients would be needed in order to assess the potential difference between the two groups.

CONCLUSION

Overall, the prevalence of CSCR in this small sample did not significantly increase during the pandemic. A recent retrospective study also noted no changes to, vision, subretinal fluid, or size of detachment secondary to stress in patients with a diagnosis of chronic CSCR during the COVID-19 pandemic. Although, non-significant, it is evident that patients have reported increased stress levels since the COVID-pandemic emerged. Larger studies are needed in order to evaluate the impact of stress on CSCR.

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