

SARS-CoV-2 NAAT Positivity

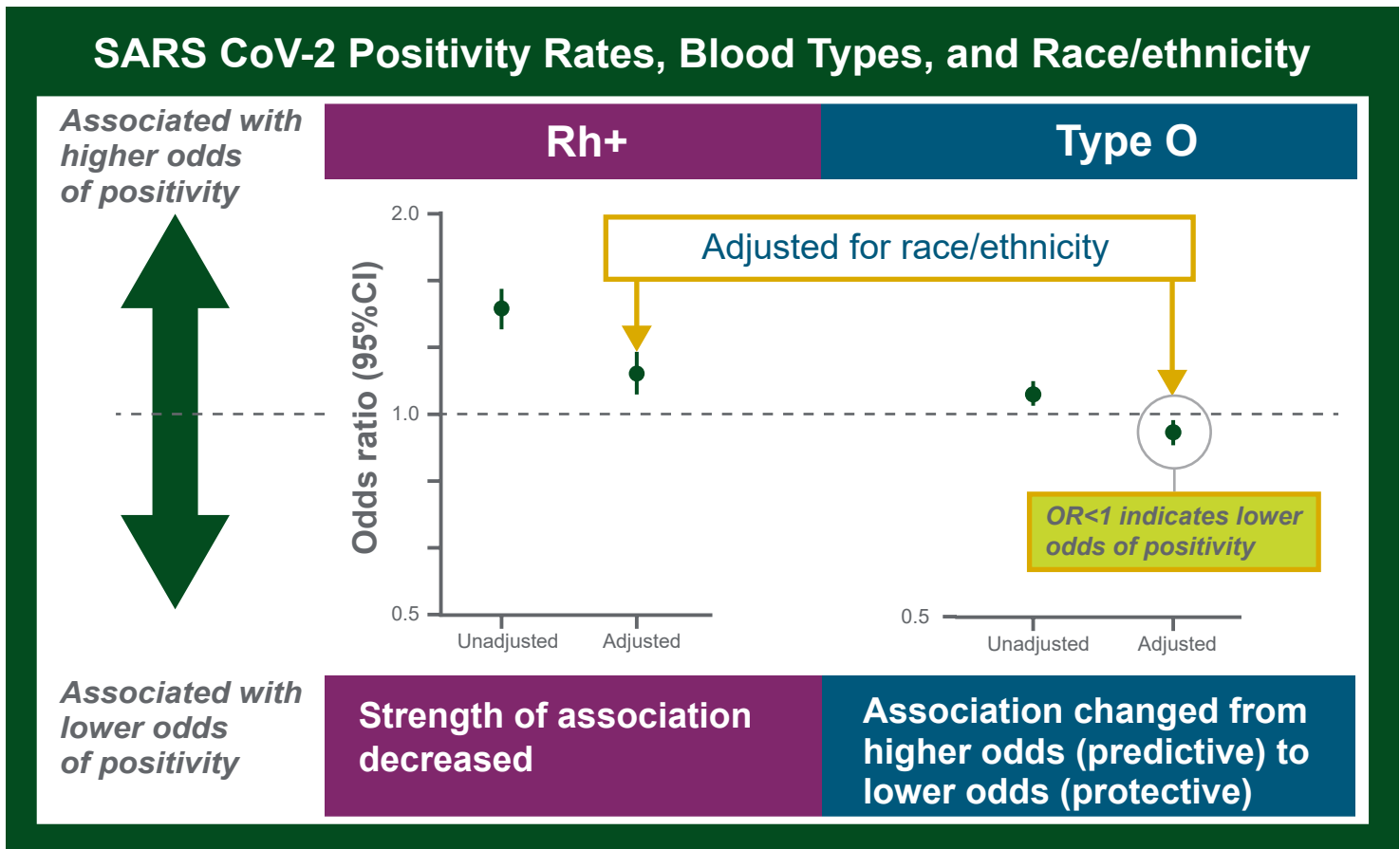
Associations with Race/Ethnicity and Blood Type

? Does race/ethnicity affect associations between blood types and SARS-CoV-2 (COVID-19) nucleic acid test (NAAT) positivity?

Background

Accumulating evidence suggests that positivity for SARS-CoV-2 is associated with race/ethnicity as well as blood type. However, no large-scale studies have examined the role of race/ethnicity in the association of ABO/Rh blood type with SARS-CoV-2 positivity.

Results¹



→ Associations between blood types and SARS-CoV-2 NAAT positivity change when race/ethnicity is factored in.

1. Niles JK, Karnes HE, Dlott JS, et al. Association of ABO/Rh with SARS-CoV-2 positivity: The role of race and ethnicity in a female cohort. *Am J Hematol*. Published online October 16, 2020. doi:10.1002/ajh.26019

SARS-CoV-2 NAAT Positivity

Associations with Race/Ethnicity and Blood Type

Article Title: Association of ABO/Rh With SARS-CoV-2 Positivity: the Role of Race/Ethnicity in a Female Cohort

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Background

- The likelihood of SARS-CoV-2 (COVID-19) infection has been associated with many factors, including race/ethnicity,^{1,2} and ABO/Rh blood type.^{3,4}
- ABO/Rh blood type has also been associated with race/ethnicity.⁵
- However, studies assessing the association of blood type with SARS-CoV-2 infection have been relatively small, and the role of race/ethnicity in this association remains largely unaddressed.
- **Objective:** In this study, the investigators examined whether race/ethnicity influences the association between ABO/Rh blood type and SARS-CoV-2 positivity in a large cohort of US women.

Methods

- Using a Quest Diagnostics database, investigators analyzed results from patients who were tested for SARS-CoV-2 from March through July 2020 and for ABO/Rh blood type since January 2010; only 1 SARS-CoV-2 test result was considered for each patient.
 - SARS-CoV-2 positivity was defined as any positive test result.
 - ABO/Rh testing was generally performed during maternal screening; thus, men were excluded from the study.
- Statistical analyses were used to examine and adjust for the effect of race/ethnicity on the relationship between SARS-CoV-2 positivity and ABO/Rh blood type among women with race/ethnicity data.

Results

- The study population included 276,536 women; race/ethnicity data were available for 88,975.
- SARS-CoV-2 positivity rates were highest among patients who were Rh+, type O, or Hispanic.
 - Rh factor: Rh+ (12.7%), Rh- (9.2%)
 - ABO blood type: O (13.0%), B (11.9%), A (11.8%), AB (11.4%)
 - Race/ethnicity: Hispanic (21.4%), Black non-Hispanic (16.3%), “other” race/ethnicity (12.8%), White non-Hispanic (7.2%)
- After adjusting for race/ethnicity, the association between type O blood and SARS-CoV-2 positivity changed from being predictive to protective. In addition, the association between Rh positivity and SARS-CoV-2 positivity weakened after adjusting for race/ethnicity.

Conclusions

- The findings of this study provide insight into the associations between ABO/Rh blood types, race/ethnicity, and SARS-CoV-2 positivity in a large cohort.
- Adjusting for race/ethnicity diminished associations between ABO/Rh blood types and SARS-CoV-2 positivity.

References

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