

Introduction

- Chronic rhinosinusitis (CRS) is associated with multiple underlying risk factors.
- Structural abnormalities, including deviated nasal septum (DNS), may contribute to impaired sinonasal drainage^{1,3}.
- However, the impact of DNS on CRS development and subsequent need for functional endoscopic sinus surgery (FESS) among patients with established CRS risk factors remains unclear².
- This study aims to determine whether DNS is associated with increased CRS incidence and FESS utilization among patients with established CRS risk factors.

Methods

- A multicenter, retrospective cohort study was conducted using the TriNetX database.
- Patients were categorized into cohorts based on nine established CRS risk factors.
- Analysis 1: CRS Development
 - For each risk factor, patients with and without DNS were compared for CRS development.
- Analysis 2: FESS Utilization
 - Among patients with CRS and each risk factor, patients with and without DNS were compared for FESS.
- Propensity score matching controlled for age, sex, race, and major comorbidities.

Results

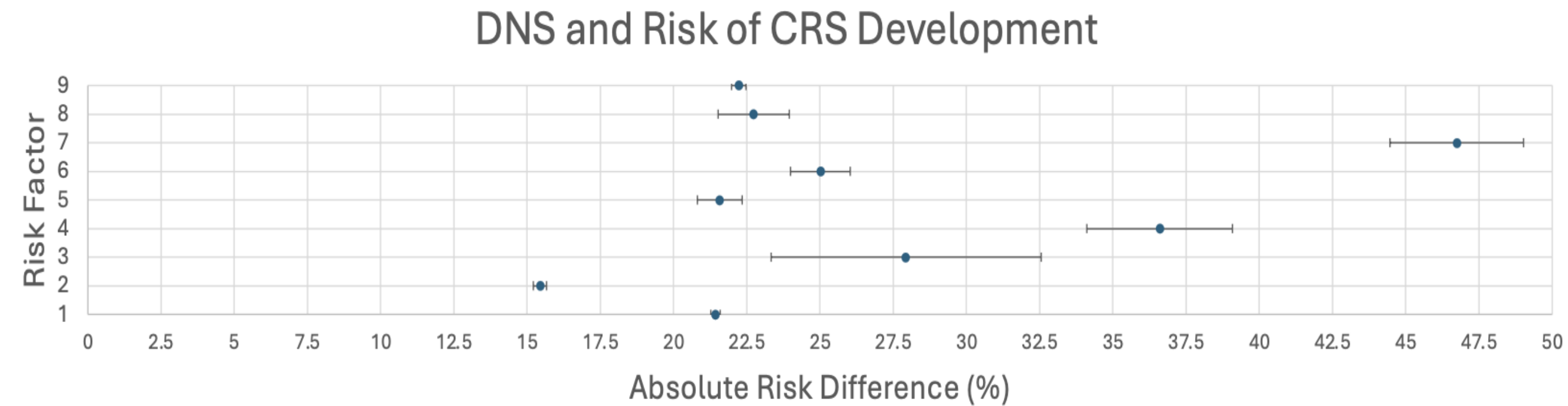


Figure 1. Association between DNS and CRS across high-risk populations.

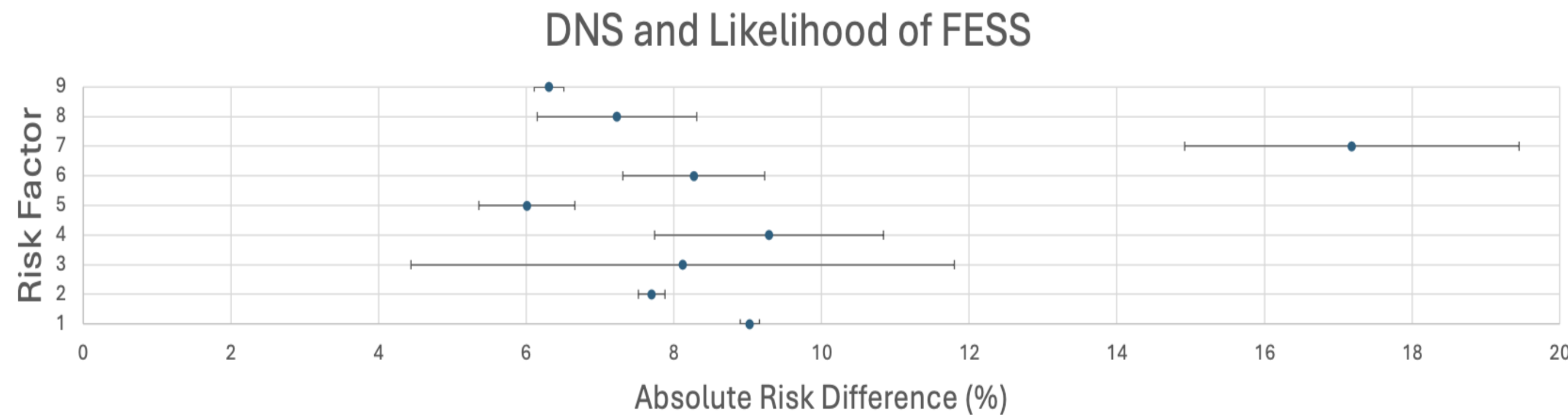


Figure 2. Association between DNS and FESS utilization across high-risk populations.

Legend

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|-------------------------------------|--|
| 1 Allergic Rhinitis* | 6 Transplant* |
| 2 Chronic Rhinitis* | 7 Cystic Fibrosis* |
| 3 Severe Combined Immunodeficiency* | 8 Primary Ciliary Dyskinesia* |
| 4 Common Variable Immunodeficiency* | 9 Chronic Obstructive Pulmonary Disease* |
| 5 Neutropenia* | |

*p-value <0.0001

Discussion

- DNS was associated with increased CRS incidence across all nine high-risk populations evaluated.
- Among patients with CRS, DNS was also associated with increased likelihood of FESS across all risk-factor groups.
- These findings suggest that nasal septal deviation may contribute to CRS burden and surgical utilization in patients with underlying risk factors.
- Limitations include the retrospective database design and reliance on accurate clinical coding.
- Further prospective studies are needed to determine whether correction of DNS reduces CRS development or the need for FESS.

References

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