What Is the Diagnostic Performance of Machine Learning-Derived OSA Prediction Tools Using Readily Available Data Without Questionnaires?

**STUDY DESIGN**

- **Retrospective cohort study** of 17,448 subjects from sleep clinics within the international Sleep Apnea Global Interdisciplinary Consortium was randomly split into training (n=10,469) and validation (n=6,979) sets.

- Logistic regression and machine learning techniques were used to determine the ability of age, gender, body mass index, and race to predict OSA status.

**RESULTS**

- **RETROSPECTIVE VALIDATION DATASET**
- **PROSPECTIVE CLINICAL DATASET**
- **SLEEP HEART HEALTH STUDY DATASET**

OSA prediction tools using machine learning without patient-reported symptoms provide better diagnostic performance than logistic regression. Machine learning-derived algorithms may have utility for widespread identification of OSA than logistic regression and are generally comparable to STOP-BANG, which relies on patient symptoms.


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