

Describing the burden of RSV infection and subsequent wheezing in toddlers: an international cross-sectional study

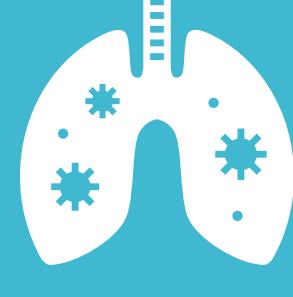
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carenity

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Introduction

Respiratory syncytial virus (RSV) is a leading cause of respiratory tract infection in children. While infants are at high risk, RSV remains a considerable health problem beyond infancy [1].



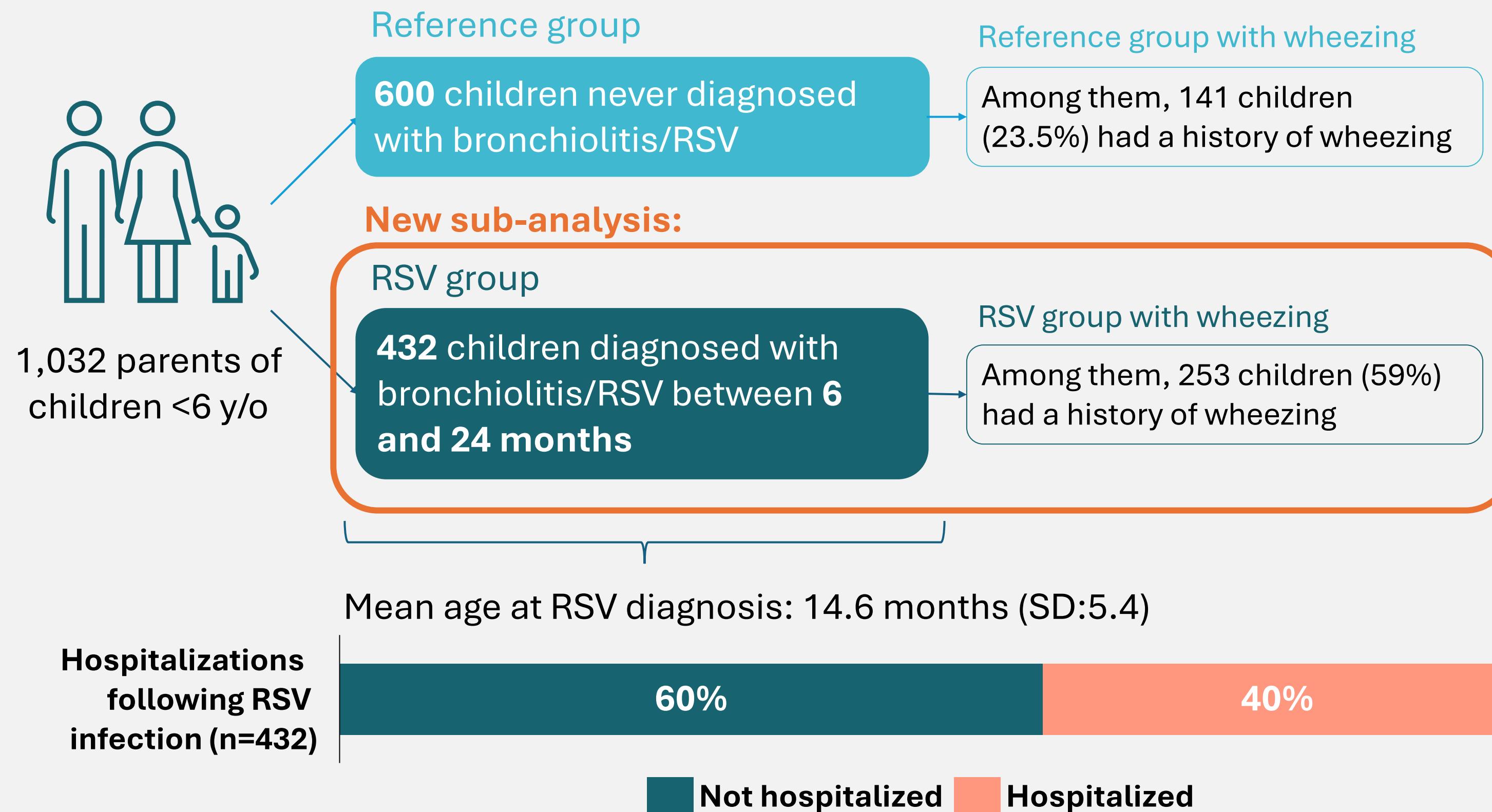
Objective

This study aimed to describe RSV and **subsequent wheezing burden in toddlers** aged 6 to 24 months and their parents.



Results

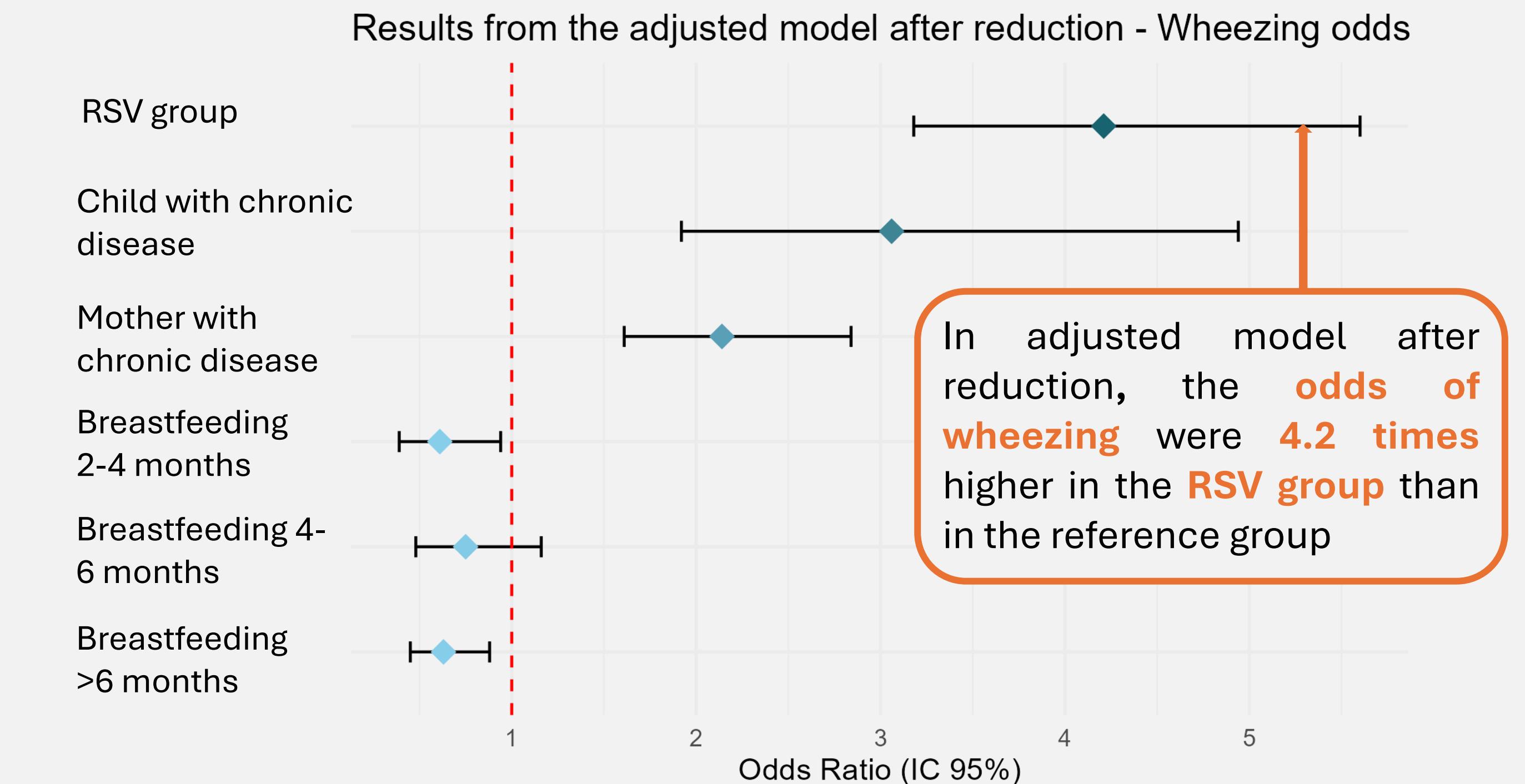
Respondents' profile



Methods

An international **cross-sectional survey** was conducted in the US, UK, Spain and Italy from February to April 2023 and enrolled 1,200 parents of children under 6 years old, allocated into 2 groups: a reference group (n=600 children never diagnosed with bronchiolitis/RSV) and a RSV group (n=600 children diagnosed with bronchiolitis/tested RSV-positive before 2 years old and in the past 5 years) [2]. In this secondary analysis exploring RSV infections in **toddlers**, we focused on the subgroup of children who contracted RSV/bronchiolitis **between 6 and 24 months** (n=432). Bivariate analyses were conducted to compare them to the reference group (using chi-squared test, noted χ^2 or Fisher's exact test, noted F), and multivariable logistic regressions were used to assess the association between RSV and wheezing.

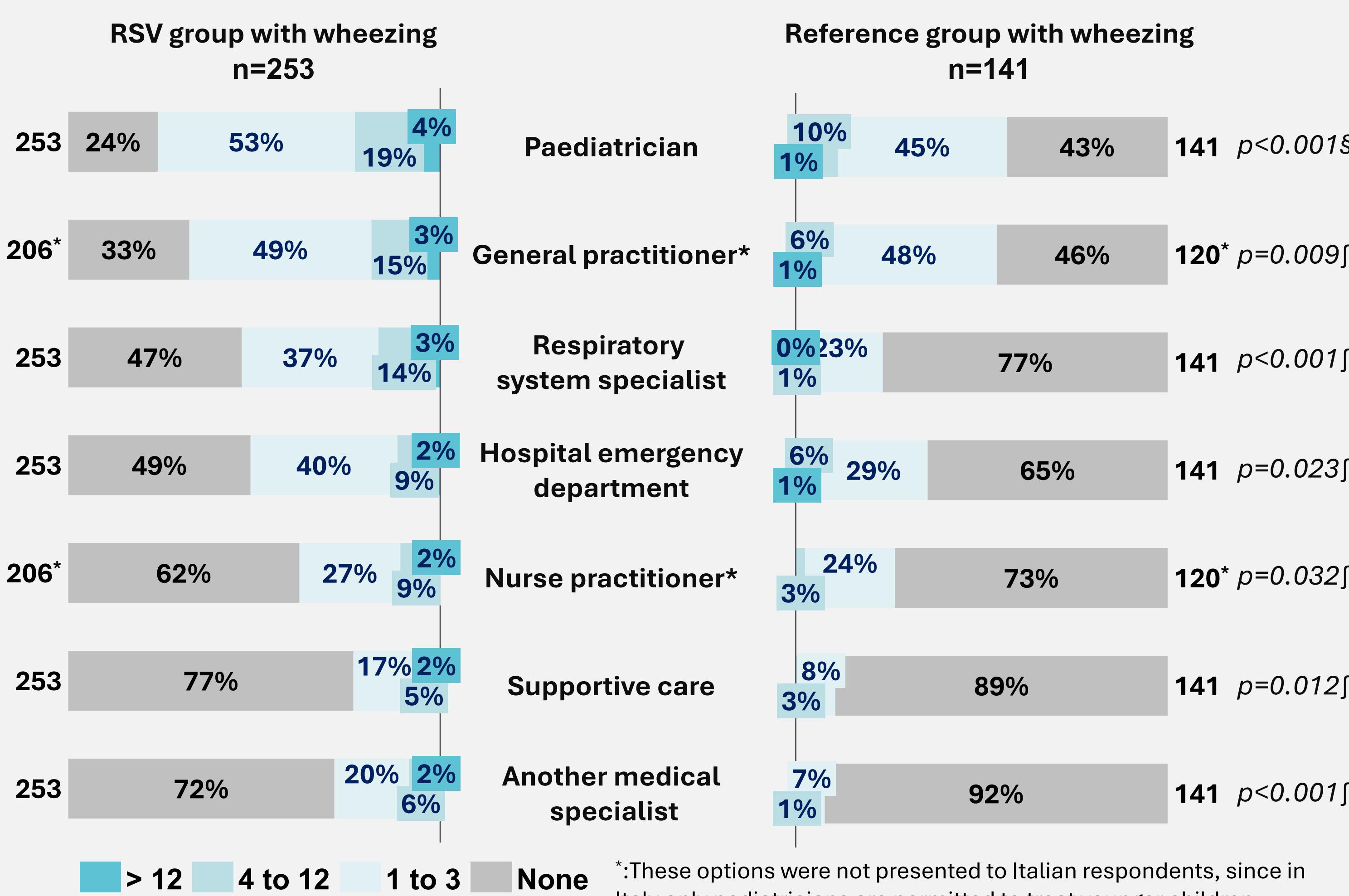
Wheezing odds from a multivariate logistic regression



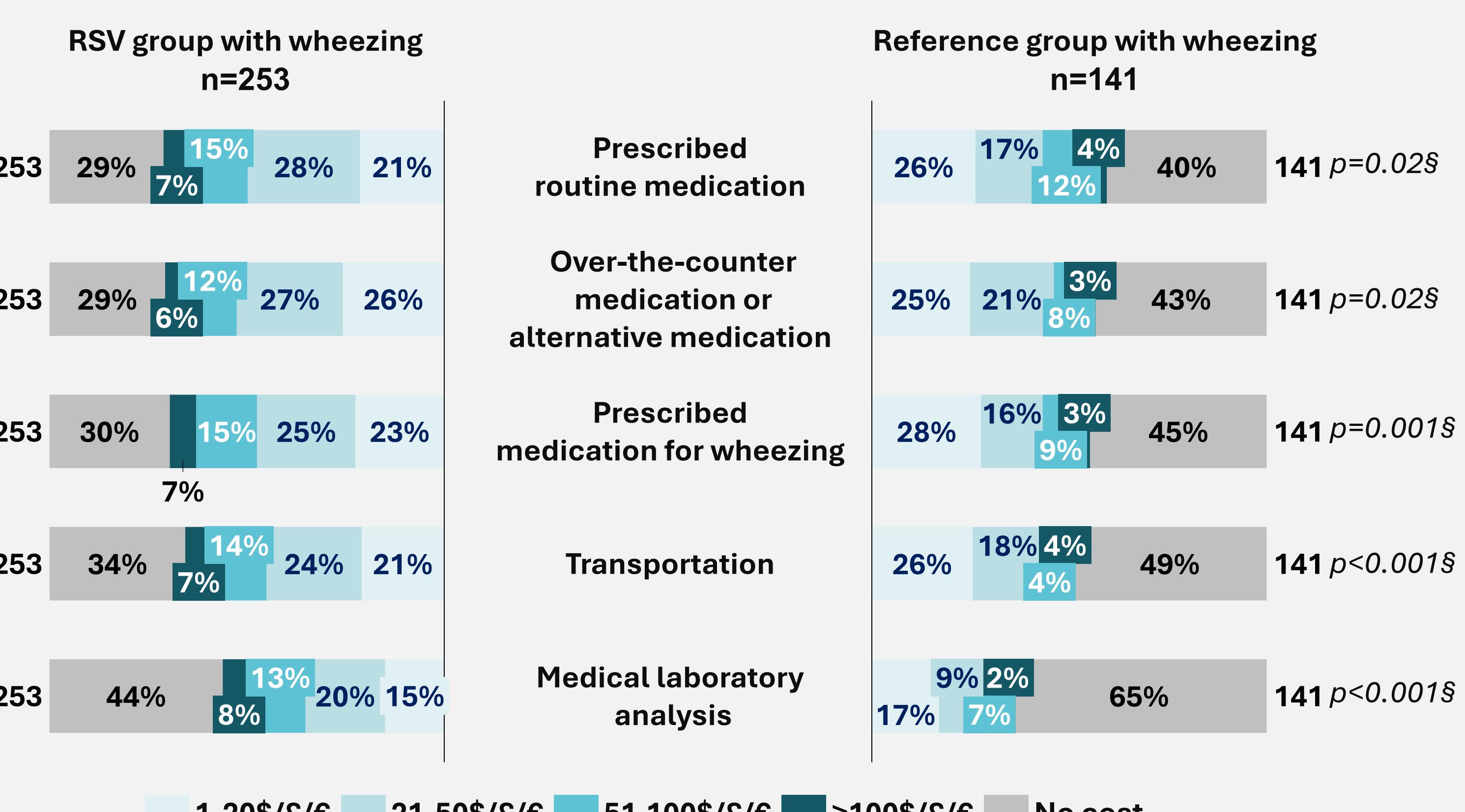
Baseline characteristics of the RSV and reference groups were similar for parental age at childbirth, birth month, and environmental exposure. Significant statistical differences were observed for the child's age, breastfeeding duration, presence of chronic diseases (child and mother) and gestational age at birth. These variables were used as **potential confounders** to adjust the multivariate logistic regression **model**.

Wheezing-related healthcare utilization

Number of wheezing-related visits to healthcare professionals since wheezing onset



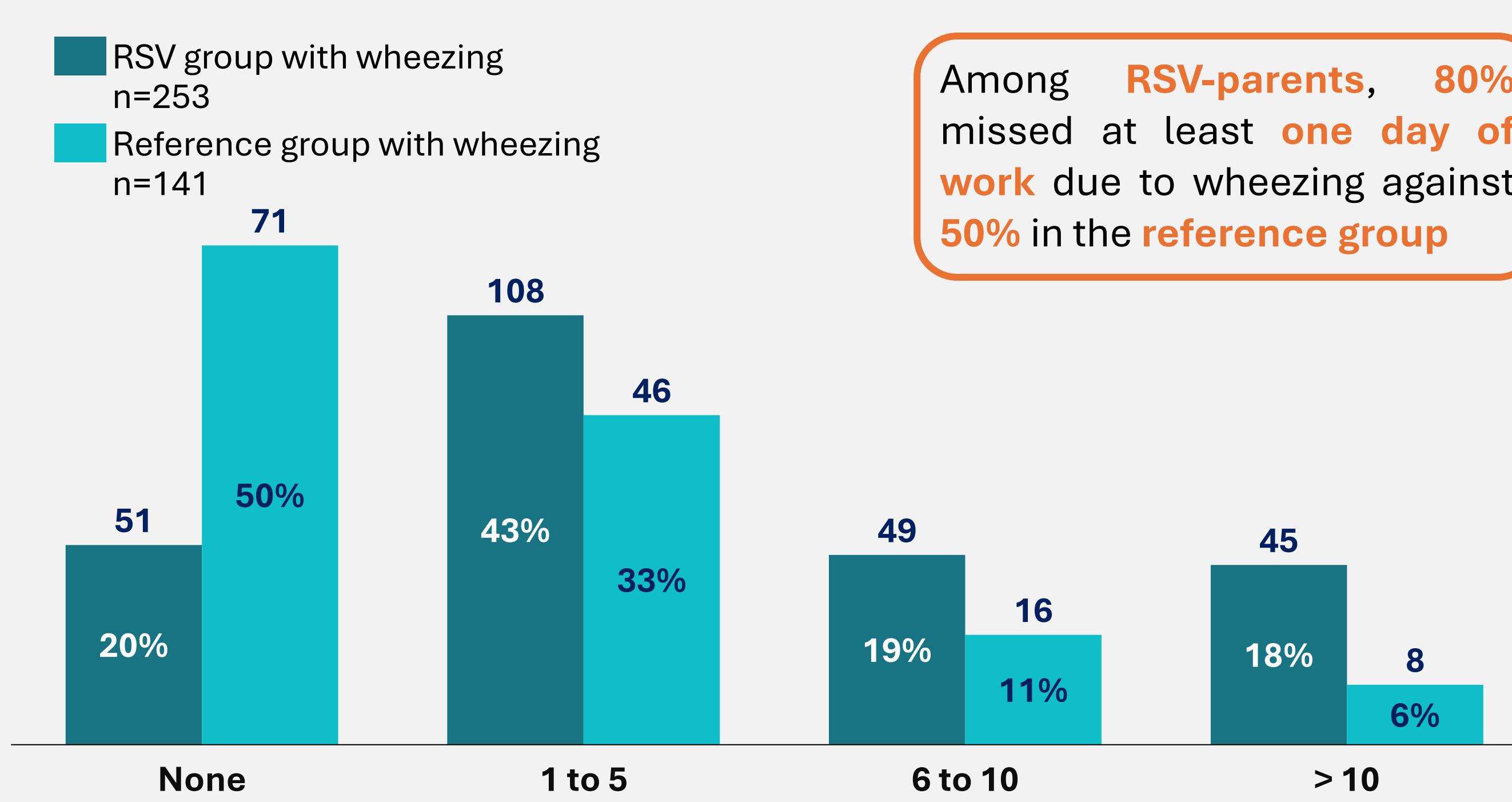
Amount of healthcare costs parents had to pay since wheezing onset



→ The impact of these costs were **moderate to strong** for 43% of parents in the **RSV group** vs 16% in the **reference group**

Impact of wheezing on professional life

Number of days of work missed due to child's wheezing ($p<0.001\chi^2$)



Conclusions

Wheezing represents a **considerable burden** for **toddlers** and their **families** and appears to be **more frequent** and more **impactful** in children with **RSV history**, affecting notably parents' **finances** and **professional lives**.

References & Funding statements

- Strategic Advisory Group of Experts on Immunization. WHO position paper on immunization to protect infants against respiratory syncytial virus disease. Weekly epidemiological record. 2025;100(22):193-218.
- Custovic A, Mestre-Ferrandiz J, Kragten-Tabatabaie L, et al. Parent's perception of respiratory syncytial virus and subsequent wheezing burden: A multi-country cross-sectional survey. Pediatric Allergy Immunology. 2024;35(6):e14169. doi:10.1111/pai.14169

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Conflict of Interest statement: LJ and FV are employees of Carenity, which has been contracted by Sanofi for the project. HS is a former Carenity employee.