

Impact of comorbidities on baseline characteristics in severe asthmatics in the German Asthma Net (GAN)

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Background

Assessing comorbidities is crucial for diagnosing and managing severe asthma, yet its impact on asthma outcomes is unclear.

Aims and Objectives

We aimed to study the prevalence and effect of baseline comorbidities on asthma control, exacerbations, hospitalizations, and lung function in a cohort of 2572 adults from the German severe asthma registry.

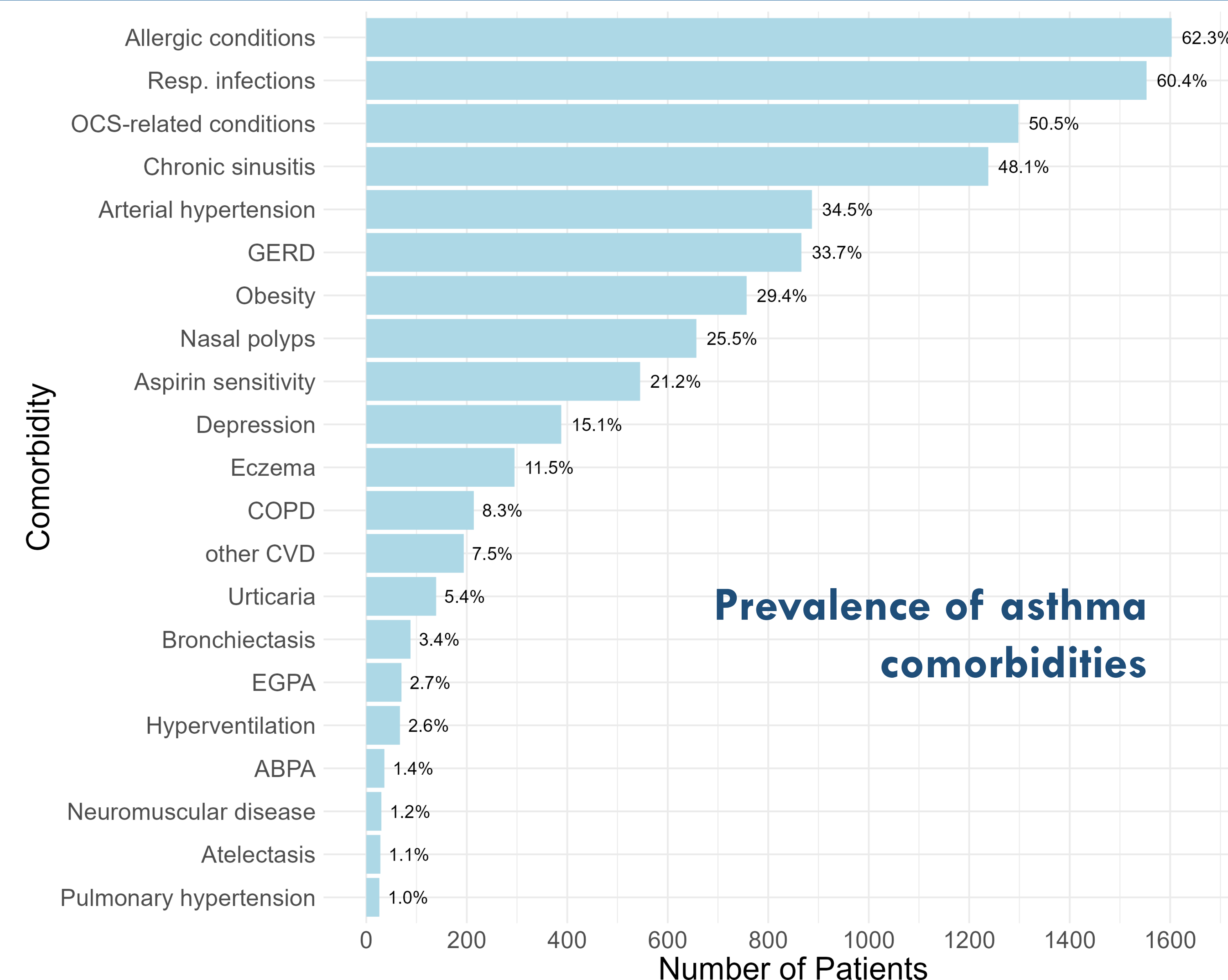
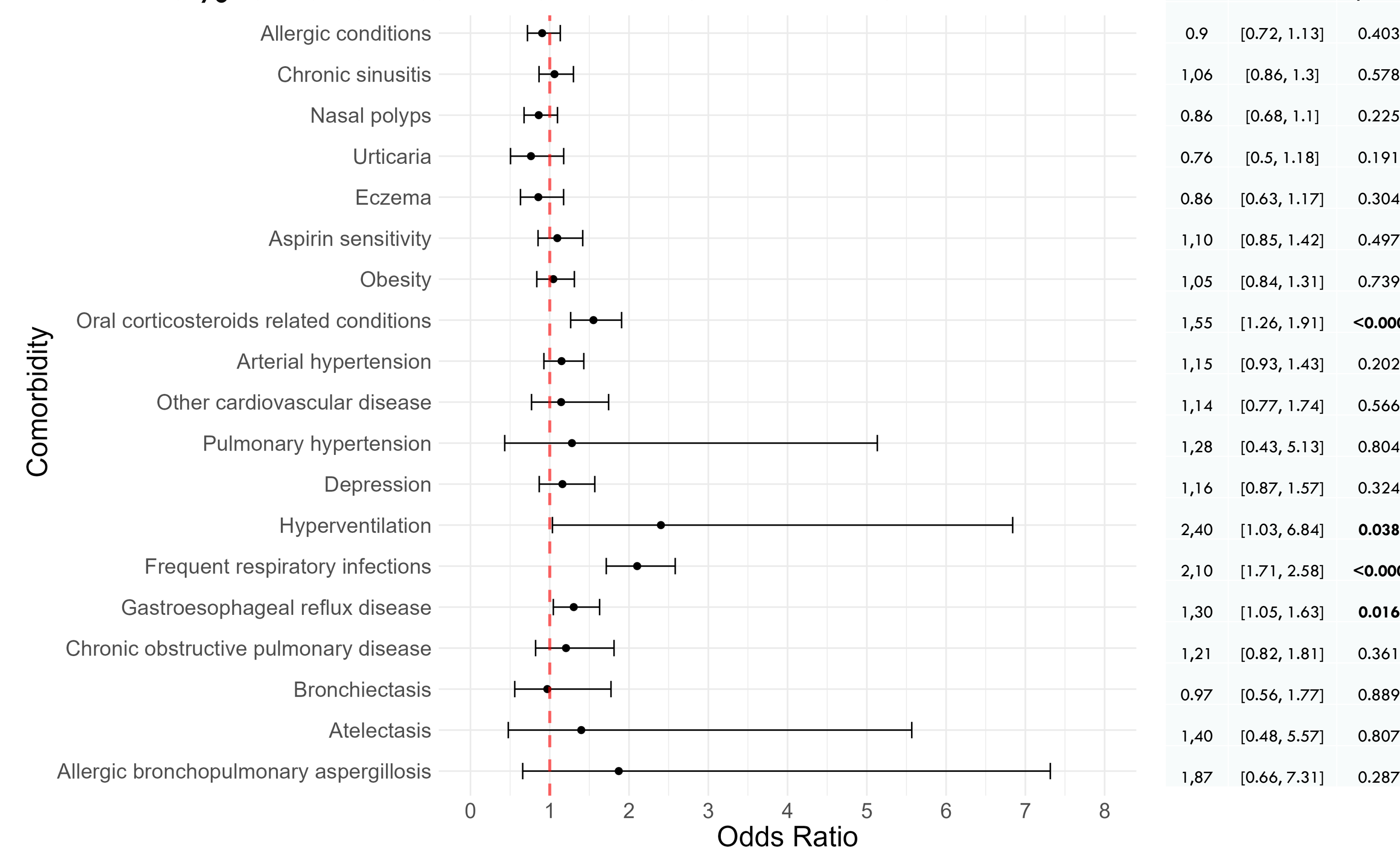
Methods

We analyzed the comorbidities and their impact at baseline visit using various statistical tests: Chi-Squared or Fisher's Exact Test, Kruskal-Wallis or Wilcoxon rank-sum test, and Pearson's or Spearman's correlation coefficients.

Results

| Characteristics of study population (n=2572) | |
|---|--------------|
| Age - yr., mean ± SD | 53.7 ± 13.2 |
| Female, no. (%) | 1486 (57.8) |
| BMI (kg/m ²), mean ± SD | 27.67 ± 5.97 |
| Never-smokers, no. (%) | 1376 (53.5) |
| Ex-smokers, no. (%) | 1121 (43.6) |
| Smokers, no. (%) | 72 (2.8) |
| Asthma control questionnaire (ACQ) -5 Score, mean ± SD | 2.8 ± 1.5 |
| FEV1%, mean ± SD | 66.1 ± 21.9 |
| Oral Corticosteroids - no. (%) | 893 (34.7) |
| Predominantly allergic asthma - no. (%) (n=2565) | 1090 (42.5) |
| Number of exacerbations in the last 12 months, median/IQR | 3 (2-5) |
| Number of comorbidities, mean ± SD | 4.23 ± 2.04 |
| 1-4 comorbidities | 1394 (54.2) |
| ≥5 comorbidities | 1121 (43.6) |

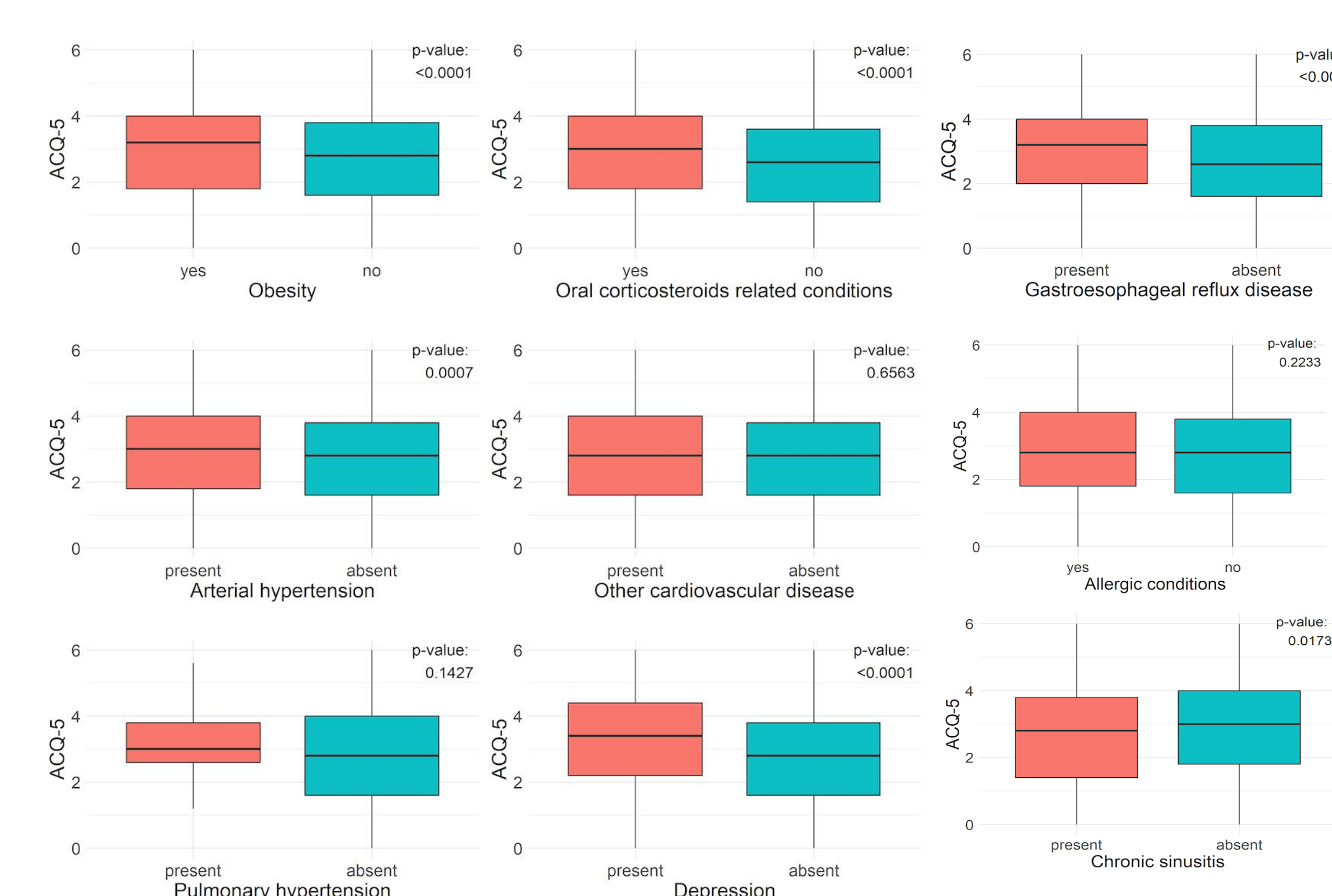
Forest Plot of ORs and 95% CI for exacerbations in the last 12 months



Lower **ACT score** associated with: reflux disease, frequent respiratory infections, COPD, obesity, arterial hypertension, depression (p<0.0001), EGPA (p=0.0002), pulmonary hypertension, (p=0.0088) and eczema (p=0.0428).

Reduced **FEV1** associated with: oral corticosteroids – related comorbidities (OCS-C), chronic obstructive pulmonary disease (COPD), arterial hypertension (p<0.001), EGPA (p=0.042) and pulmonary hypertension (p=0.002).

Association of ACQ-5 score with asthma comorbidities



Conclusions

Comorbidities are often linked to worse outcomes, highlighting the need for their evaluation in severe asthma.

