

Clinical Profile of Asthma and Its Geographical Variability in Southern Spain

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Introduction

Asthma is a chronic inflammatory disease of the airways that manifests with recurrent episodes of dyspnoea, coughing and wheezing.

In Spain it affects more than 2.5 million people. Environmental factors such as pollution and pollen, together with sedentary lifestyle habits, contribute to its prevalence and worsening.

Objectives

To estimate the incidence and prevalence of asthma in Andalusia according to age, geographical distribution, and clinical description.

Results

The incidence in 2024 ranged from 3.9 (Málaga) to 6.9 (Granada) cases per 1,000 inhabitants. (Figure 1)

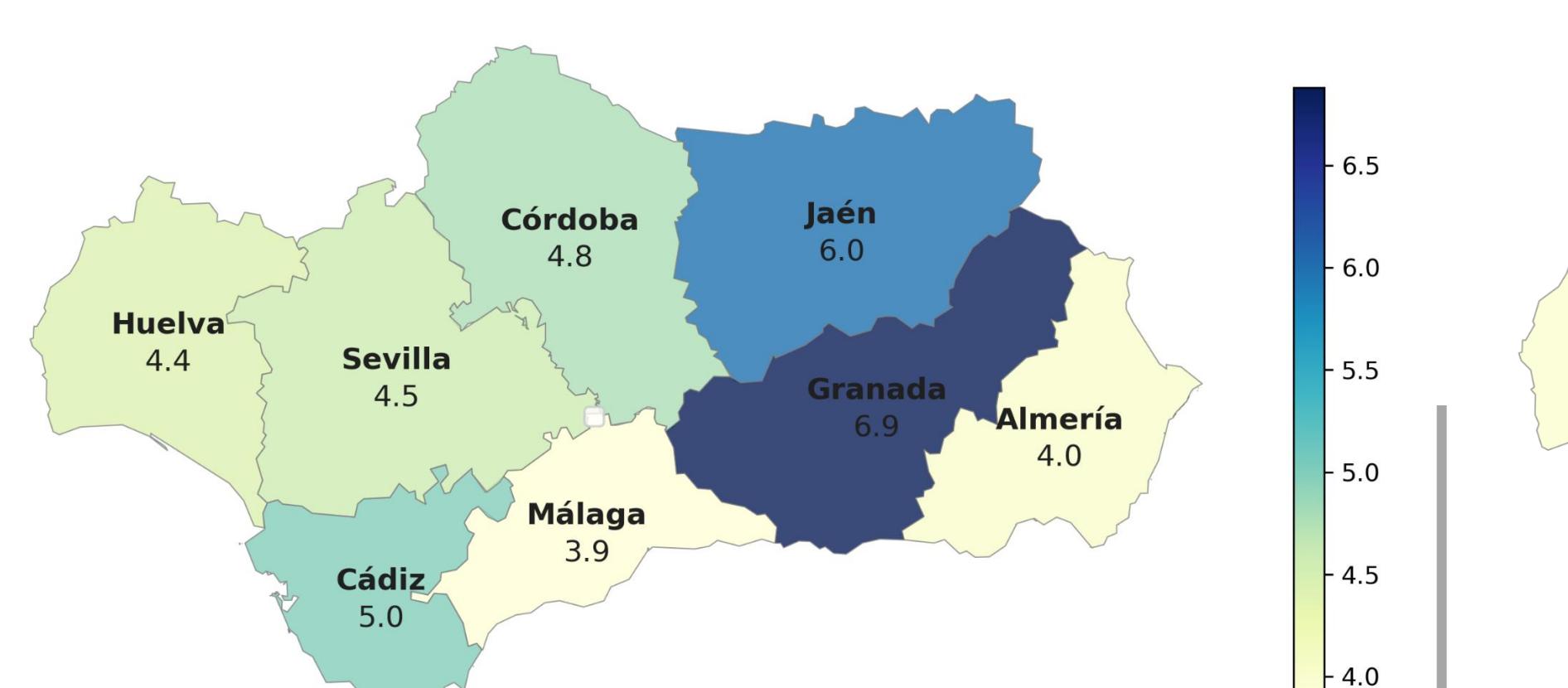


Figure 1. Incidence per province per 1,000 inhabitants in 2024

In 2024, 41,424 new asthma diagnoses were registered in Andalusia. (Figure 2)

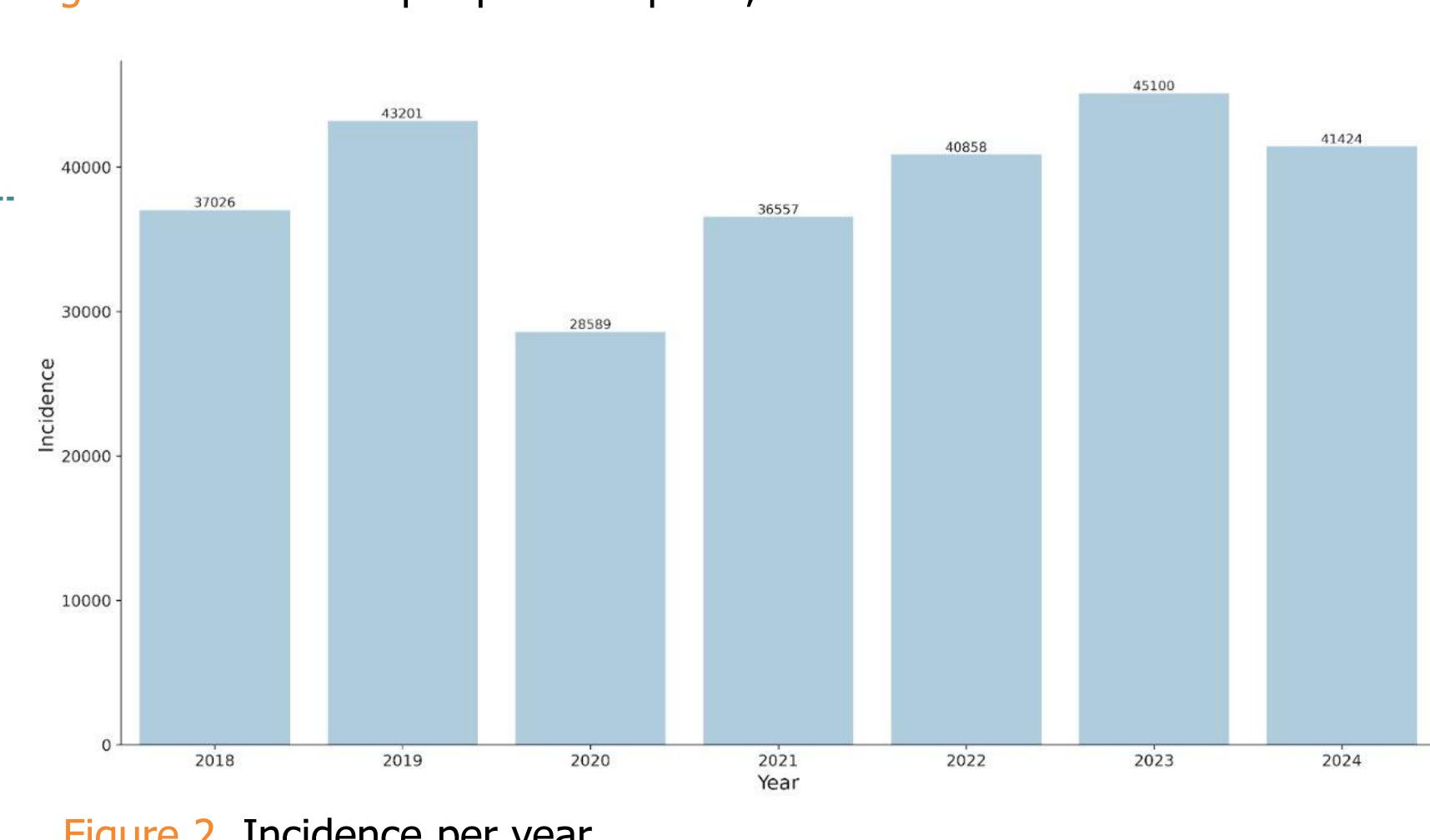


Figure 2. Incidence per year

Annual incidence over 2018 to 2024 period ranged from 28,590 cases in 2020 (decline associated with COVID-19) to 45,100 in 2023. (Figure 2)

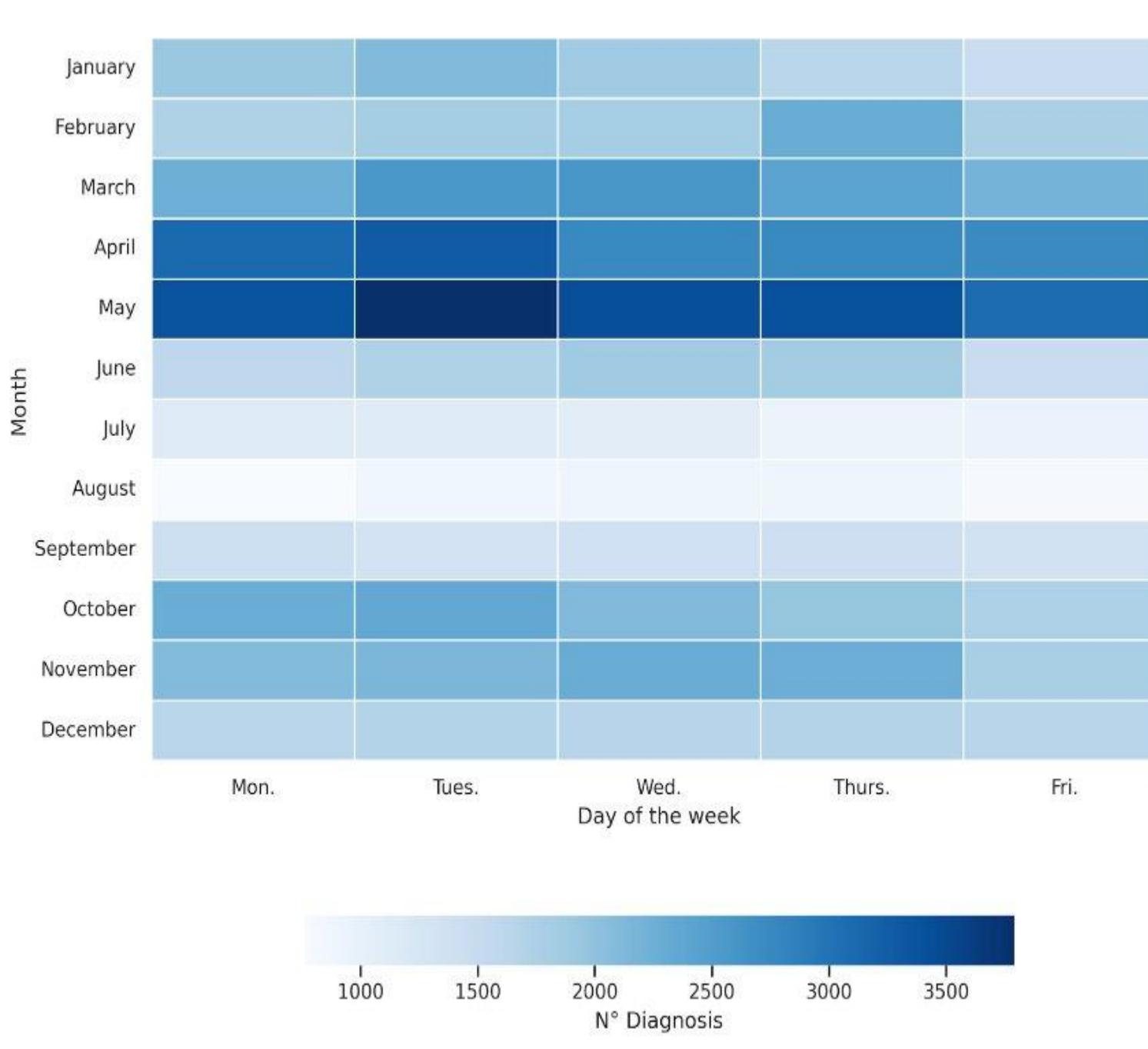


Figure 3. Incidence per month since 2021

The increase in diagnoses in the spring reflects the seasonal impact of respiratory allergies. (Figure 3)

66% of the new cases in 2024 were adults; Córdoba and Cádiz stand out for their higher proportion of children. (Figure 4)

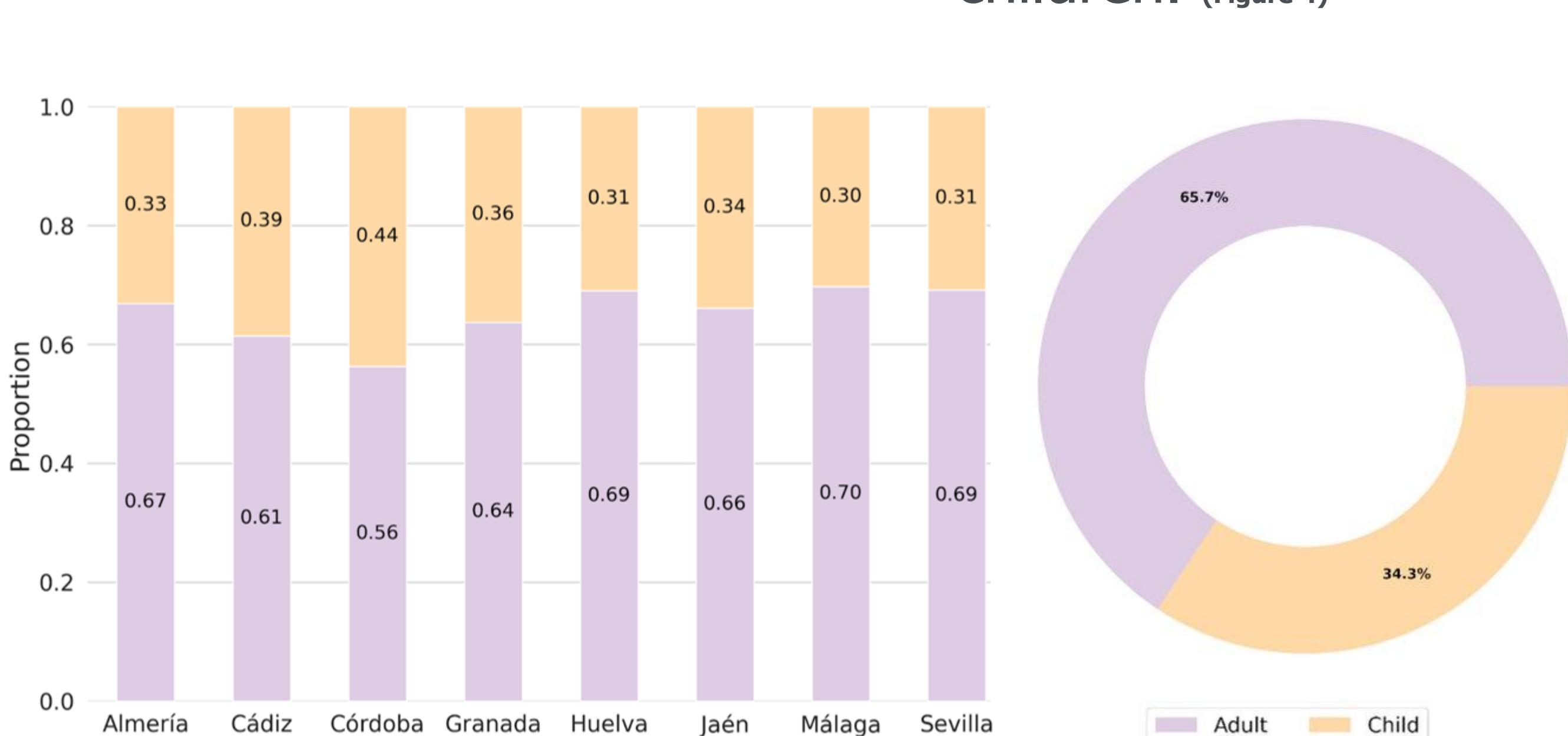


Figure 4. Incidence by province and type of asthma (children <16 years)

Methods

Retrospective, cross-sectional observational study based on the Andalusian Population Health Database (BPS).

The BPS integrates clinical, demographic and health resource use data for approximately 8.5 million people. It is updated monthly and includes information from primary care, specialist, hospital, emergency unit and prescriptions.

Active cases of asthma were identified in the period 2021-2024. Incidence per year and rates by age and province in 2024.

Comorbidities were analysed in the prevalent population in 2024.

In 2024, 267,838 prevalent cases of asthma were identified in Andalusia.

The prevalence of asthma in Andalusia varies between provinces, from 25.8 cases per 1,000 inhabitants in Málaga to 43.1 in Granada. (Figure 5)

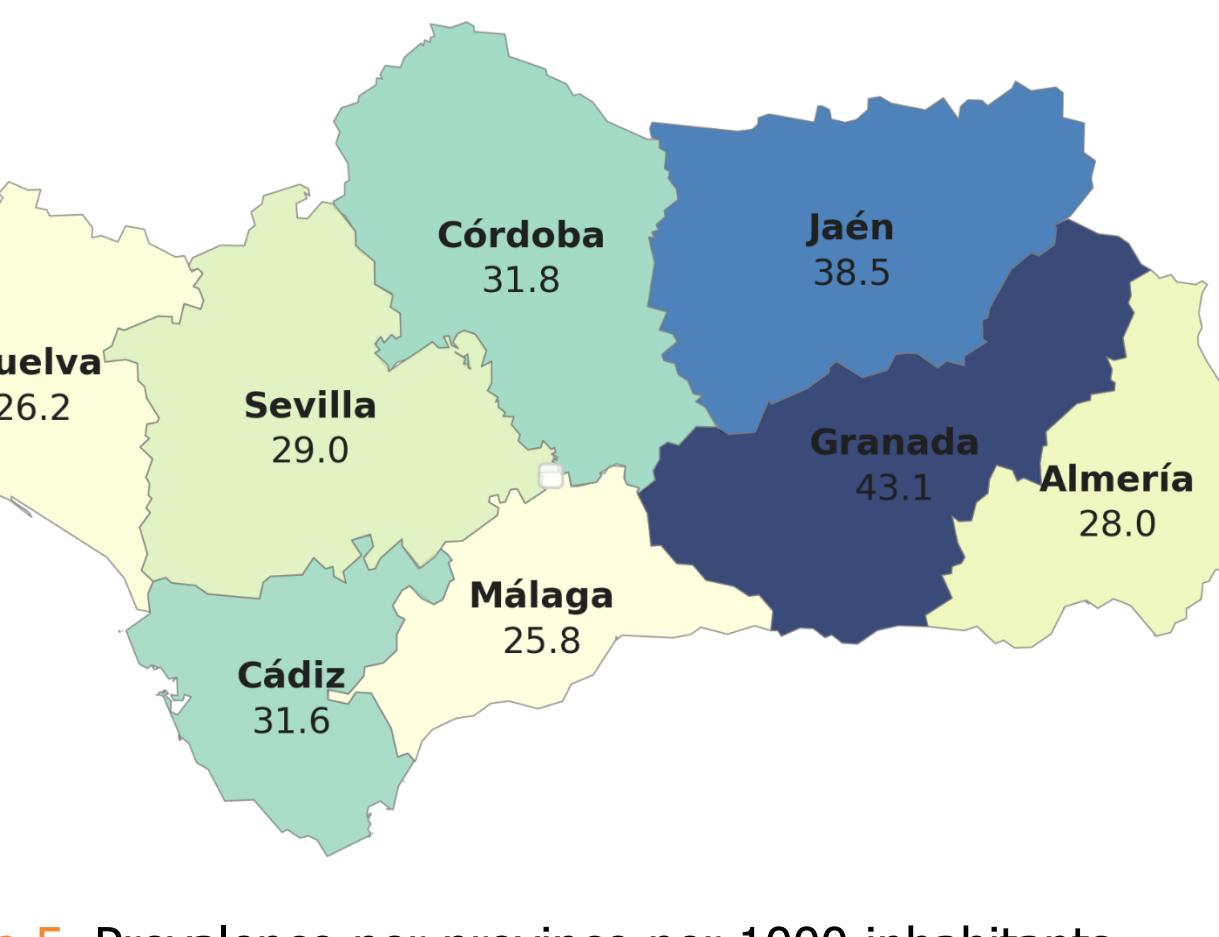


Figure 5. Prevalence per province per 1000 inhabitants

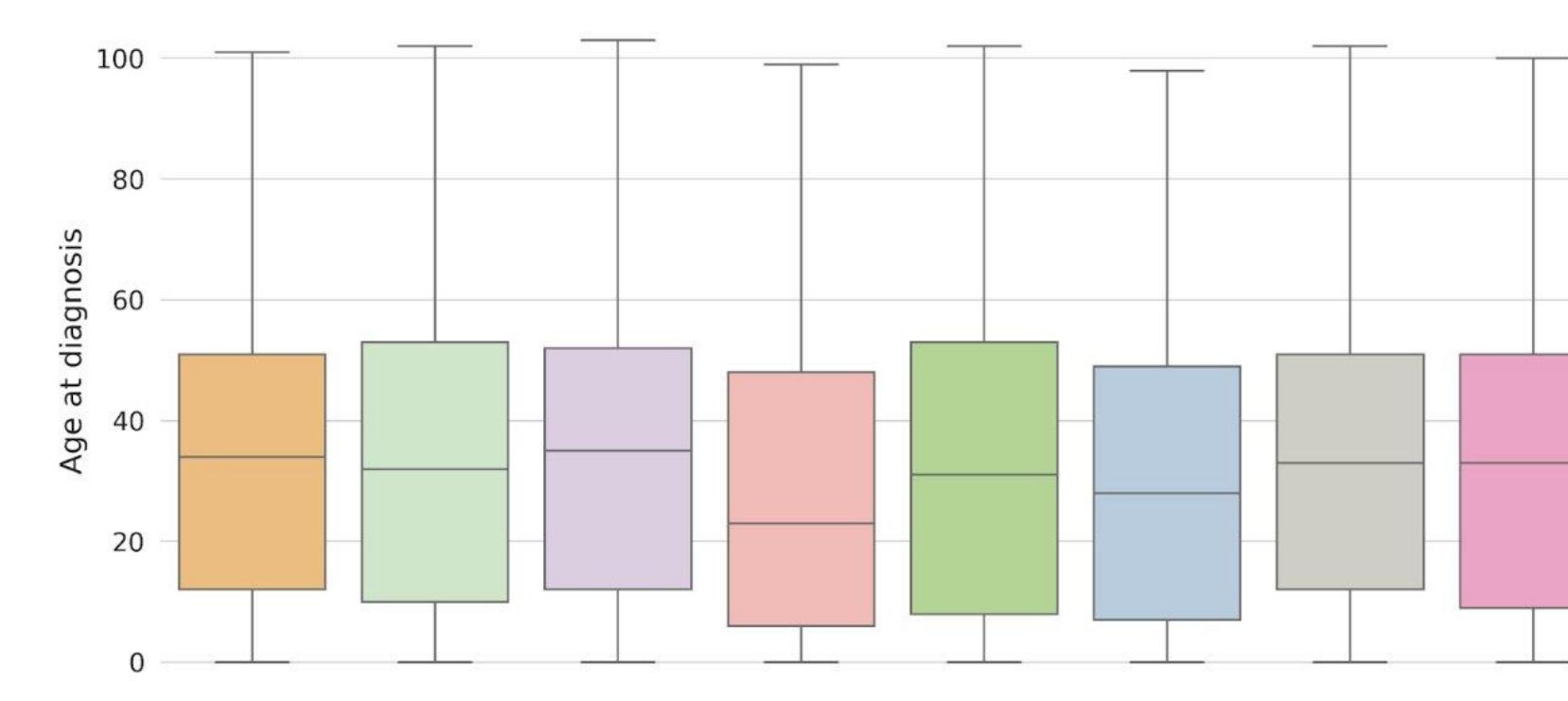


Figure 6. Age distribution by province in the prevalent population to 2024

These differences could reflect variability in environmental factors, diagnosis or burden of care.

Despite the differences in the median age, the general pattern was homogeneous between provinces. (Figure 6)

Comorbidities within prevalent Asthma population 2024

	Overall	Almeria	Cadiz	Cordoba	Granada	Huelva	Jaen	Malaga	Sevilla
Cardiovascular disease n (%)	84,563 (31.9)	7,290 (34.4)	11,801 (29.9)	6,796 (27.7)	13,130 (32.6)	4,516 (32.3)	7,934 (33.5)	14,264 (31.4)	18,832 (33.2)
Dermatological diseases n (%)	39,023 (14.7)	2,724 (12.9)	6,155 (15.6)	3,998 (16.3)	6,371 (15.8)	2,119 (15.2)	2,998 (12.7)	6,246 (13.7)	8,412 (14.8)
Digestive and liver diseases n (%)	41,239 (15.5)	2,869 (13.5)	6,746 (17.1)	4,072 (16.6)	5,565 (13.8)	2,101 (15.0)	3,521 (14.9)	5,976 (13.1)	10,389 (18.3)
Metabolic and endocrine diseases n (%)	66,359 (25.0)	5,456 (25.8)	8,756 (22.1)	5,606 (22.9)	10,456 (26.0)	3,706 (26.5)	6,424 (27.1)	11,301 (24.9)	14,654 (25.8)
Renal and urological diseases n (%)	30,751 (11.6)	2,416 (11.4)	4,331 (11.0)	2,414 (9.8)	4,502 (11.2)	1,798 (12.9)	2,758 (11.7)	5,777 (12.7)	6,755 (11.9)
Respiratory diseases n (%)	29,951 (11.3)	2,367 (11.2)	4,572 (11.6)	2,284 (9.3)	3,854 (15.3)	2,131 (10.8)	2,556 (10.8)	4,259 (9.4)	7,928 (14.0)
Musculoskeletal n (%)	59,184 (22.3)	4,719 (22.3)	8,118 (20.5)	4,862 (19.8)	9,413 (23.4)	3,278 (23.5)	5,937 (25.1)	9,639 (21.2)	13,218 (23.3)
Psychiatric and developmental disorders n (%)	107,453 (40.5)	8,598 (40.6)	15,514 (39.2)	9,060 (37.0)	15,744 (39.1)	6,025 (43.1)	9,146 (38.6)	18,625 (41.0)	24,741 (43.6)

The most frequent comorbidities in the prevalent asthmatic population were psychiatric disorders (40.5%), followed by cardiovascular (31.9%) and metabolic (25%) diseases.

Conclusions

- Relevant differences in asthma incidence rates were observed between provinces.
- The distribution between childhood and adult asthma also varied regionally, suggesting distinct patterns that require specific future analyses.