

# Frequency of moderate to severe atopic dermatitis and clinical characteristics in a Colombian HMO: results for 2015-2022

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## OBJECTIVE

- To estimate the frequency of moderate to severe atopic dermatitis and measure its demographic and clinical characteristics in a Colombian Health Maintenance Organization (HMO) between 2015 and 2022.

## METHODS

- This was a retrospective, descriptive and cohort study of patients with moderate to severe atopic dermatitis from 2015 to 2022. The diagnosis of atopic dermatitis is derived from International Classification of Diseases 10th (codes L20.0, L20.81, L20.82, L20.83, L20.84, L20.89, or L20.9) and the classification from moderate to severe is related to the prescription of advanced therapies (phototherapy, dupilumab, systemic corticosteroid, systemic immunosuppressants, or JAK inhibitor).
- The data analysis in this study was focused on generating descriptive statistics, which included the calculation of frequencies, percentages for qualitative variables, and measures of central tendency such as the mean and median and variability (e.g. Standard Deviation [sd] and Interquartile Range, IQR) for quantitative variables. The statistical analysis was conducted using the R statistical software (v.4.3.1)<sup>1</sup>.

## RESULTS

- A total of 14,668 patients met the inclusion and exclusion criteria for the observation period. Median follow-up varied over the observed period, i.e., in 2015 it was 219 days while in 2022 it was 173 days.
- Most of them were female (67.3%), adults (76.4%), especially between 18 and 49 years (53.5%), did not recognize themselves as members of any ethnic group (64.6%) and only 27.3% were first diagnosed by a dermatologist.
- The most common atopic comorbidities were related to endocrine, nutritional, and metabolic diseases (49.3%) and allergic rhinitis (40.3%).

Table 1. Patients’ characteristics

Demographical and clinical data	Sample n	14,668 %
Age group, n (%)		
0-5	0	(0)
6-11	983	(6.7)
12-17	2,471	(16.8)
≥ 18-49	7,853	(53.5)
50-59	1,448	(9.9)
60-69	1,137	(7.8)
70-79	542	(3.7)
≥80	234	(1.6)
Female, n (%)	9,869	(67.3)
Urban residents, n (%)	14,668	(100)
Ethnicity, n (%)		
Indigenous	-	(0)
White -hispanic	1,188	(8.1)
Black	106	(0.7)
None	9,471	(64.6)
Mixed (mestizo)	3,900	(26.6)
Missing	3	(0)
Affiliation regime, n (%)		
Subsidized	1,093	(7.5)
Contributory	13,575	(92.5)

## RESULTS (cont)

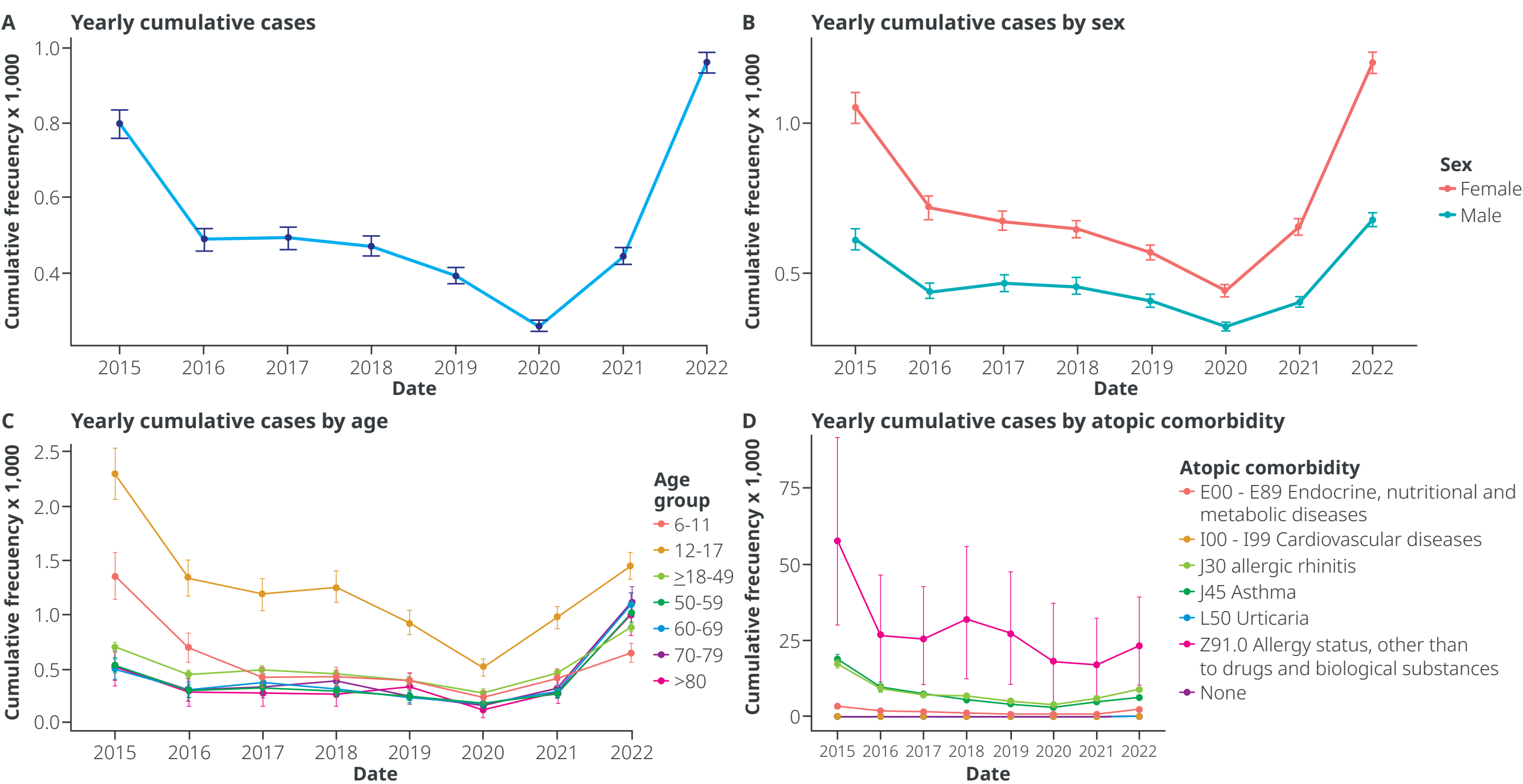
Demographical and clinical data	Sample n	14,668 %
Atopic comorbidities, n (%)		
Z91.0 Allergy status, other than to drugs and biological substances	76	(0.5)
J30 allergic rhinitis,	5,913	(40.3)
J45 Asthma	3,045	(20.8)
L50 Urticaria	0	(0)
I00 -I99 Cardiovascular diseases	48	(0.3)
E00 – E89 Endocrine, nutritional and metabolic diseases	7,234	(49.3)
Specialist who performs the diagnosis, n (%)		
Dermatologist	4,011	(27.3)
Allergist	286	(1.9)
Internal Medicine	19	(0.1)
Familiar physician	1	(0)
General practitioner	10,351	(70.6)

The yearly cumulative cases were characterized by a downward trend between 2015 and 2020, it started on 0.79 per 1000 persons (Confidence Interval [CI] 95% 0.75-0.83) and in 2020 it reached its lowest point, 0.39 per 1,000 persons (CI95% 0.37-0.41), and in subsequent years this trend reversed, reaching 0.96 per 1,000 in 2022 (CI95% 0.93-0.99) (Figure 1).

This was higher among:

- Females for whom it ranged between 0.33 per 1,000 (observed in 2020) and, 1.26 per 1,000 (in 2022).
- Teenagers (12-17 years), taking values between 0.5 per 1,000 (in 2020) and 1.45 per 1,000 (in 2022); and
- Those with an allergy status (Z910), who besides this remark it had a downward trend varying between 17.2 per 1,000 (in 2021) and 57.9 per 1,000 (in 2015) (Figure 1).

Figure 1. Yearly cumulative frequency of atopic dermatitis by main breakdowns

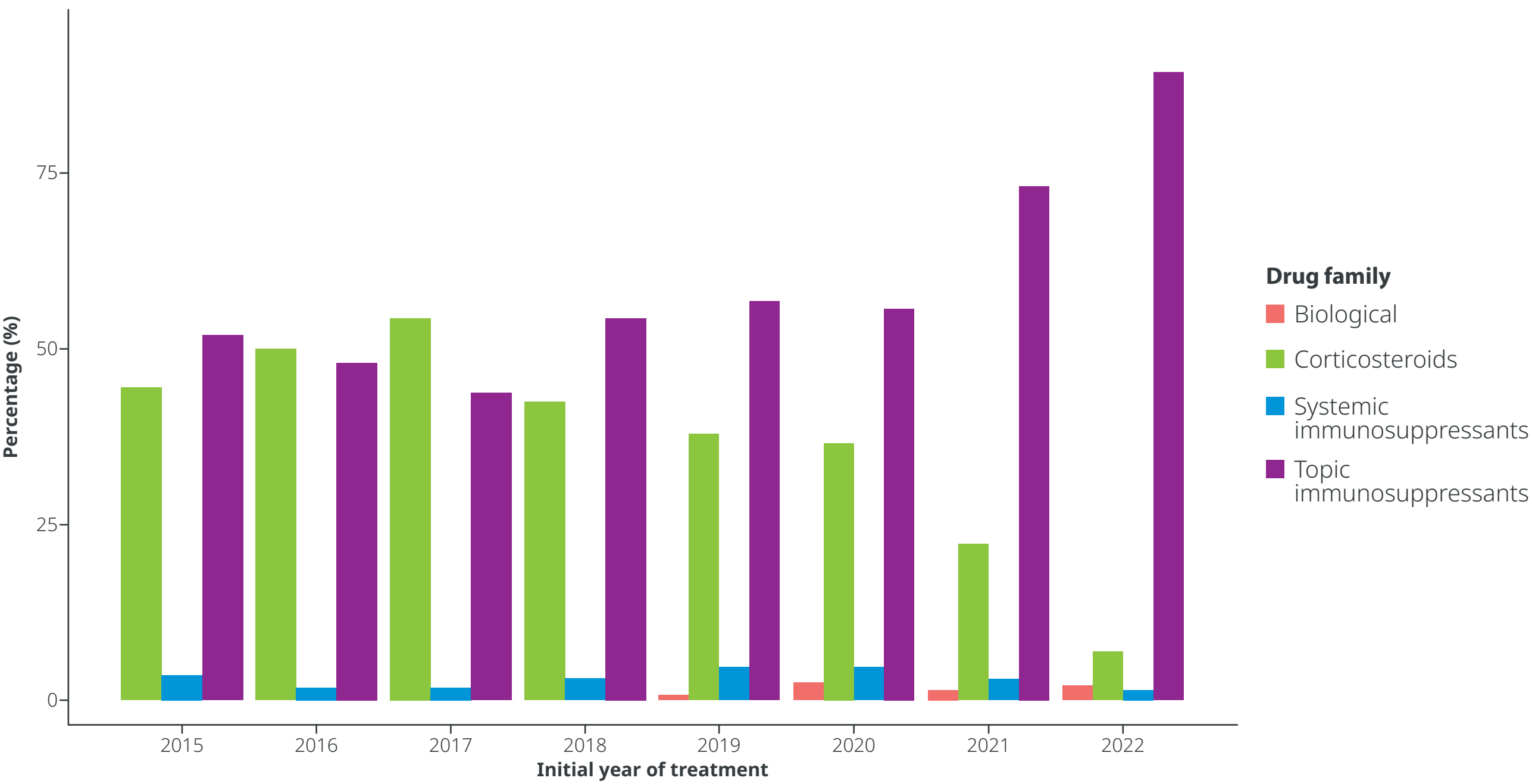


Most incident patients received as first treatment topic immunosuppressants (70.2%) or corticosteroids (25.5%), the remaining patients were treated with systemic immunosuppressants (2.6%), biologics or phototherapy (1.7%).

However, the first treatment by start year shows that topic immunosuppressors had increased its presence as a first line option, in 2015 it was on 52% of cases while in 2022 the 89.4%. This growth has come at the expense of reduce of corticosteroid-based treatments, which in 2015 were employed as first-line in 44.4% of cases and in 2022 only in 7% (Figure 2).

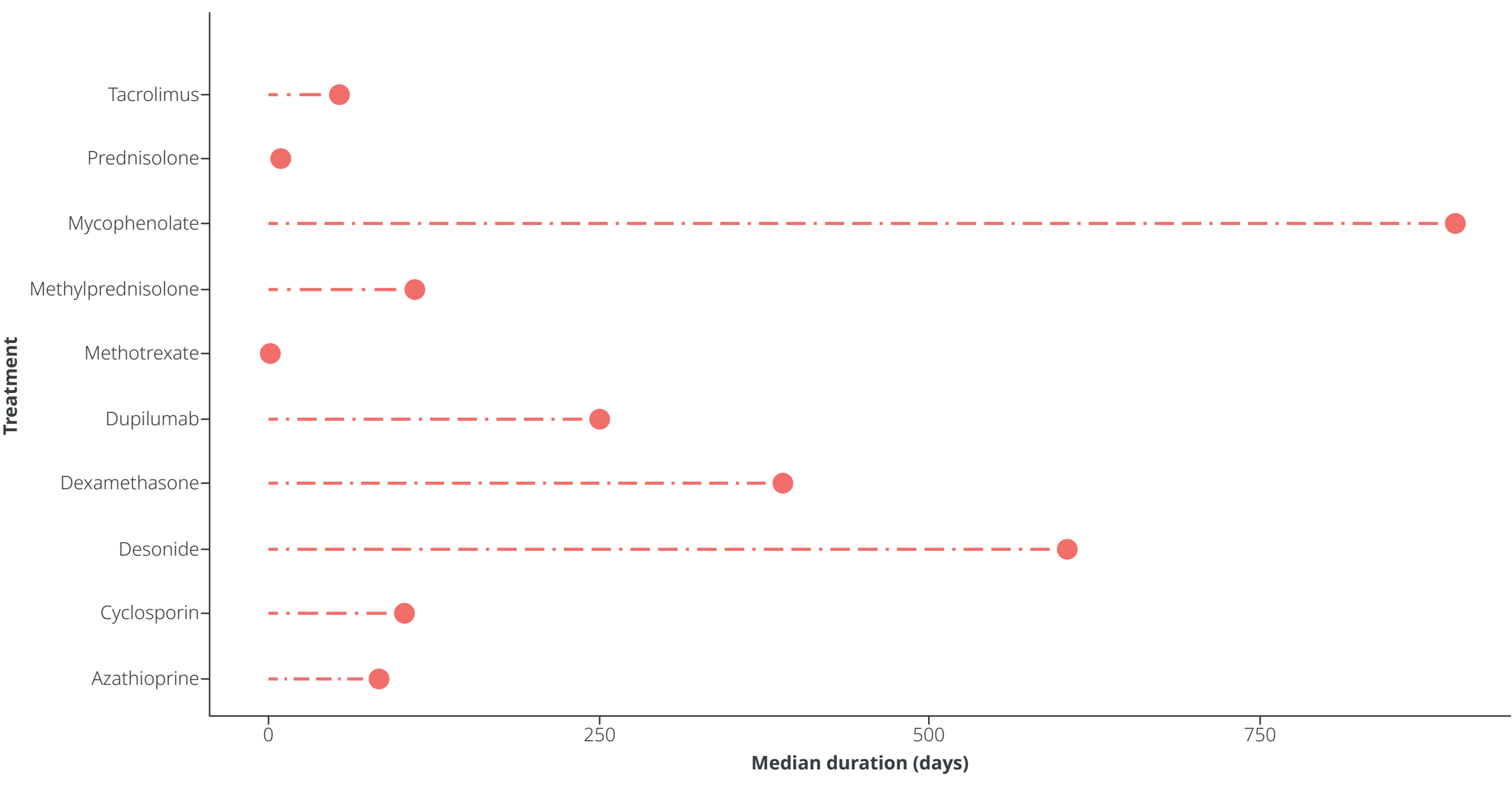
## RESULTS (cont)

Figure 2. Percentage distribution of first line treatments by year, 2015-2022



On the other hand, the median duration indicates the long-lasting first line strategies are those related to mycophenolate with a median of 898 days (IQR 654), desonide 604 (IQR 451) and dexamethasone 389 days (IQR 1,199) (Figure 3).

Figure 3. Median duration in days of first line treatments by active ingredient



## CONCLUSION

Patients with moderate to severe atopic dermatitis were working age adults, females and had as main comorbidity an endocrine, nutritional, and metabolic disease. The yearly cumulative frequency had a U-shape behavior during 2015 to 2022 with its lowest point in 2020.

## REFERENCE

1. R Core Team. R: A Language and Environment for Statistical Computing [Internet]. Vienna, Austria: R Foundation for Statistical Computing; 2023. Available from: <https://www.R-project.org/>