Administrative Frequency of Alopecia Areata and Clinical Characteristics in a Colombian HMO: a Real-World Data Characterization for 2015-2023

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OBJECTIVE

- To estimate the administrative frequency of alopecia areata (AA) and measure its demographic and clinical characteristics in a Colombian Health Maintenance Organization (HMO) between 2015 and 2023.

METHODS

- A retrospective, descriptive and cohort study of patients with AA between 2015 and 2023 was conducted. Patients with an ICD-10th code related to AA (L63.0 to L63.9) were included in the study.

- The index date was defined as the time when the patient is diagnosed AA and they were followed until death, HMO insurance discontinuation (patient loss), 5-year follow-up, or the end of the observation period (31 December 2023), whichever occurred first.

- Patient demographics, disease subtype, comorbidities, treatment and medical care were assessed at index, in addition treatment and medical care were evaluated as well during follow-up. All data were extracted from the HMO administrative health records.

RESULTS

- A total of 62,516 patients were included in the study, most of them had a diagnosis of unspecified alopecia (66.1%), were adults (86.9%) – especially between 18 and 44 years old (65.9%), female (67.7%), and 25.4% reported being mestizos (mixed race) (Table 1).

Table 1. Demographic characteristics

Alopecia Areata population [n = 62516]		
Age at diagnosis		
Mean	32.76	
Median	31.18	
Standard deviation	15.39	
Percentile 25	23.83	
Percentile 75	41.40	
Age group at diagnosis	**n**	**%**
0-5	2,437	3.90
6-11	3,297	5.27
12-17	2,461	3.94
18-44	41,168	65.85
45-65	11,333	18.13
>65 years old	1,820	2.91
Sex		
Female	42,342	67.73
Male	20,174	32.27

RESULTS (cont)

Race		
No data	41,725	66.74
Mestizo	16,016	25.62
White	4,223	6.76
Afro-american	429	0.69
Mulato	82	0.13
Zambo	29	0.05
Indigenous	12	0.02
Type of AA [ICD-10]		
AA, unspecified [L63.9]	41,332	66.11
Other AA [L63.8]	25,288	40.45
Alopecia universalis [L63.1]	7,971	12.75
Alopecia (capitis) totalis [L63.0]	2,316	3.7
Ophiasis [L63.2]	15	0.02

- These patients presented comorbidities such as anxiety disorders (23.8%), allergic rhinitis (22.3%), primary hypertension (18.2%), obesity (17.6%) and dyslipidemia (16.8%). There is an increasing gradient in comorbidities presence with increasing age. The exception was allergic rhinitis and asthma, which was more prevalent in children and adolescents. Urticaria showed a more homogeneous behavior across the different age groups (Figure 1).

- Comorbidities related to vision (such as glaucoma and retinal disease) and hearing (cf. sensorineural hearing loss), although low in the overall population (between 10% and 2%), were more common in the elderly age group (between 45% and 14%).

- By sex, few prominent differences were observed with a tendency to be mostly concentrated in females, the most notable gaps were in comorbidities such as anxiety disorders (27.9% vs. 15.1% in males), depressive episodes (17.2% vs. 7.9% in males), primary hypertension (21.1% vs. 12% in males), obesity (20.3% vs 11.9% in males) and gastroesophageal reflux disease (18.8% vs 10.8% in males).

Figure 1. 20th most predominant comorbidities by age group
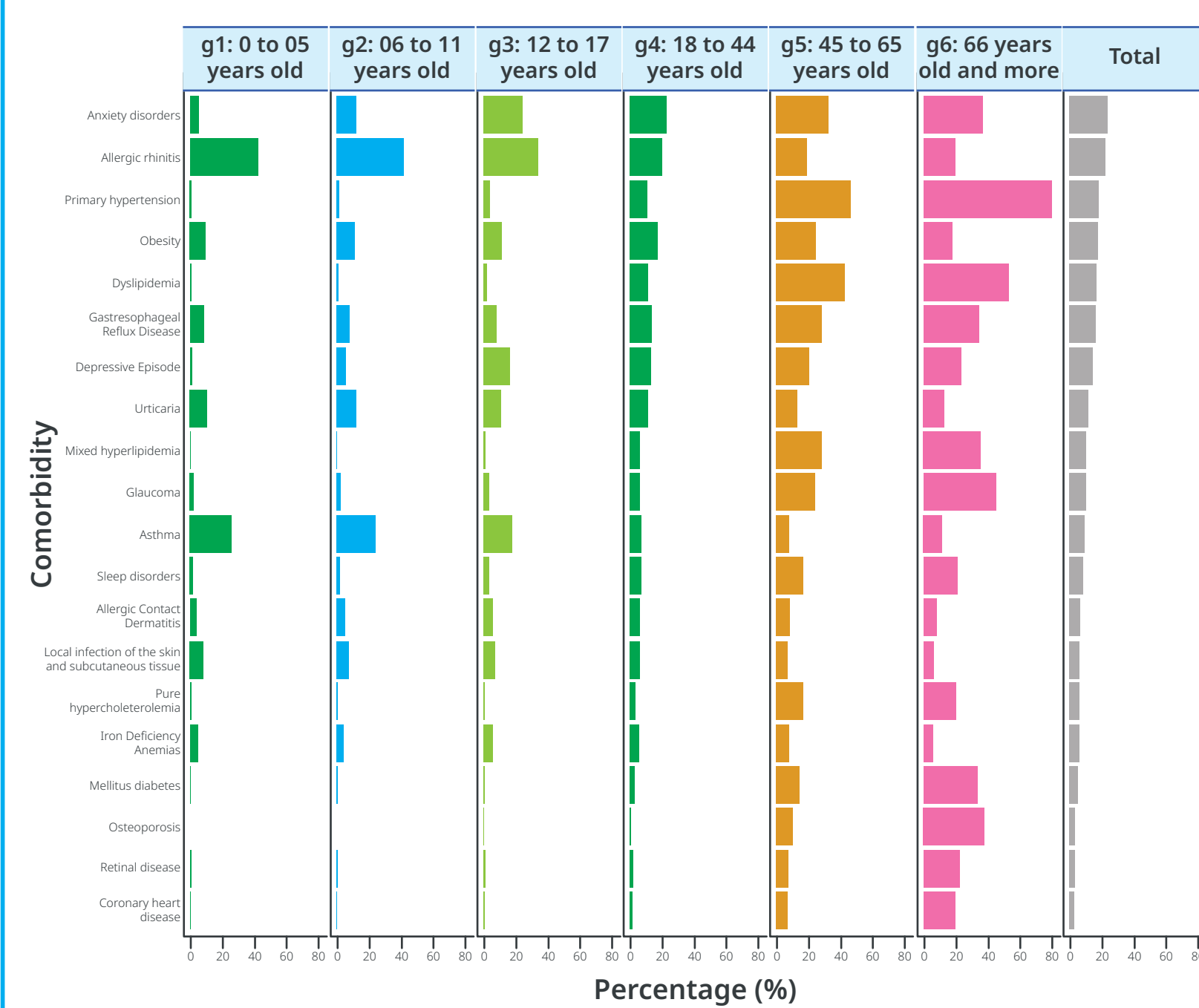

RESULTS (cont)

- The administrative prevalence (AdP) of AA per 100,000 persons exhibited an upward trend, starting at 1,271.3 in 2015. Despite a slight impact from the COVID pandemic in 2020, which saw a rate of 1,276.8, the growth trajectory continued, peaking at 1,495.6 in 2023 (Figure 2).

- By age group, those aged between 18 and 44 years old had higher AdP rates than the total, while those aged 66 years and more had the lowest. By 2023, these groups were 2114.0 and 389.9 respectively. This implies that for 2023, the risk for people aged 18-44 was 5.4-fold higher risk than that for people aged 66 and more. Additionally, those at early childhood (0-5 years old) showed a sharper upward trend than the other age groups (Figure 2).

- In a similar note, female people had higher AdP rates than the total. The rate in 2023 was 1902.1. In addition, the gender gap has increased over the years studied, related to a higher growth rate observed in the female patients (Figure 2).

Figure 2. Administrative prevalence of Alopecia Areata by age group (A) and sex (B), 2015-2023
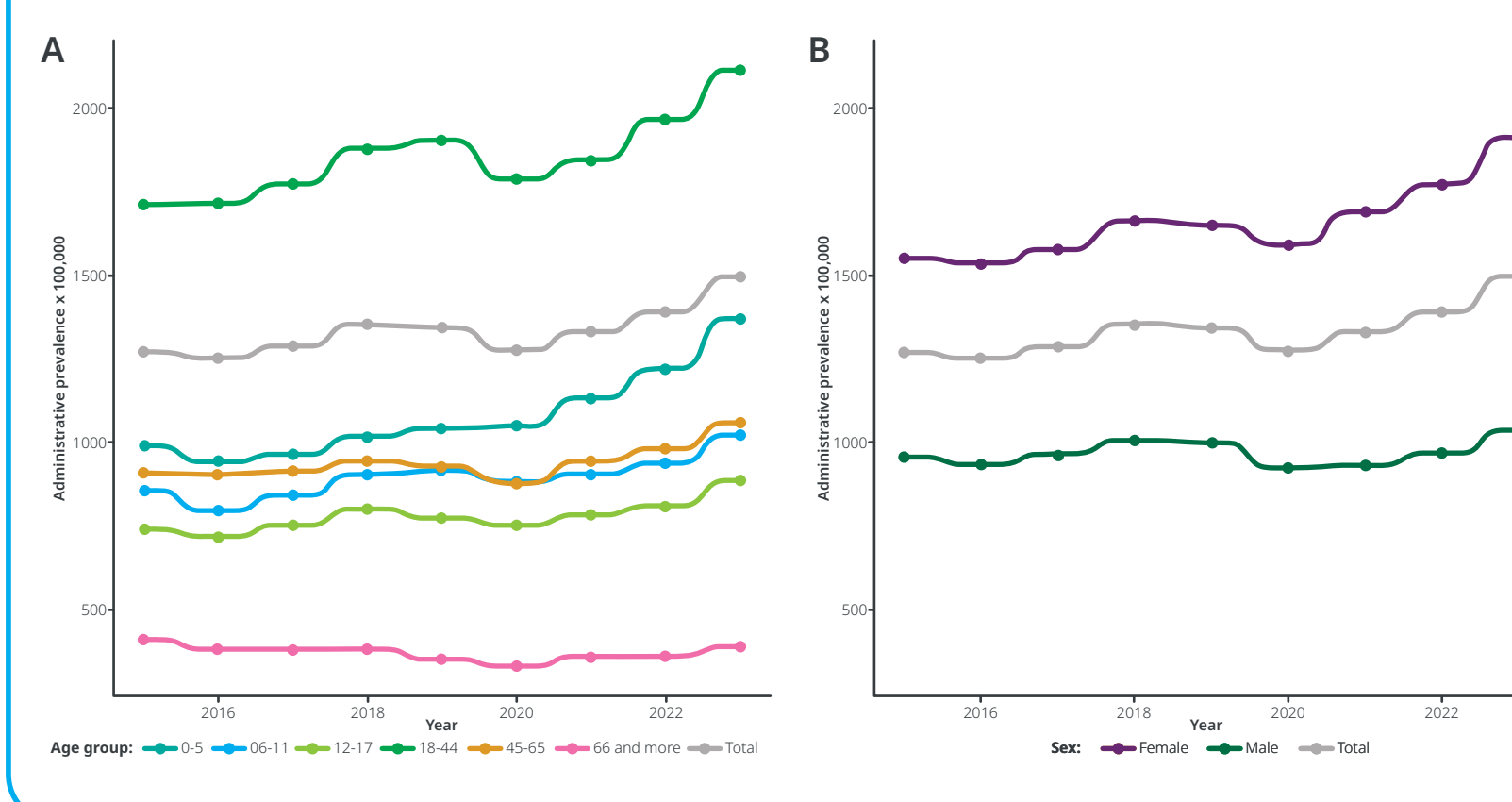
- On the other hand, the administrative incidence (AdI) per 100,000 showed a downward pattern, in 2015 was 211.7 and in 2023 dropped to 184.2. As expected, 2020 had the lowest rate of all the years studied (141.3) in relation to the COVID pandemic and the closure of several health services (Figure 3).

- Patterns similar to those seen in AdP by age group were observed in the AdI, considering that people in the 18-44 years old group presented the highest rate during the study period and the elderly (66 years old and more) showed the lowest AdI. Notably, since 2021 the AdI in children under the age of 12 years has been increasing (Figure 3).

- By sex, the AdI pattern is consistent with that observed for AdP, with females having higher AdI rates. However, during 2022 and 2023 the gaps have been closing.

Figure 3. Administrative incidence of Alopecia Areata by age group (A) and sex (B), 2015-2023
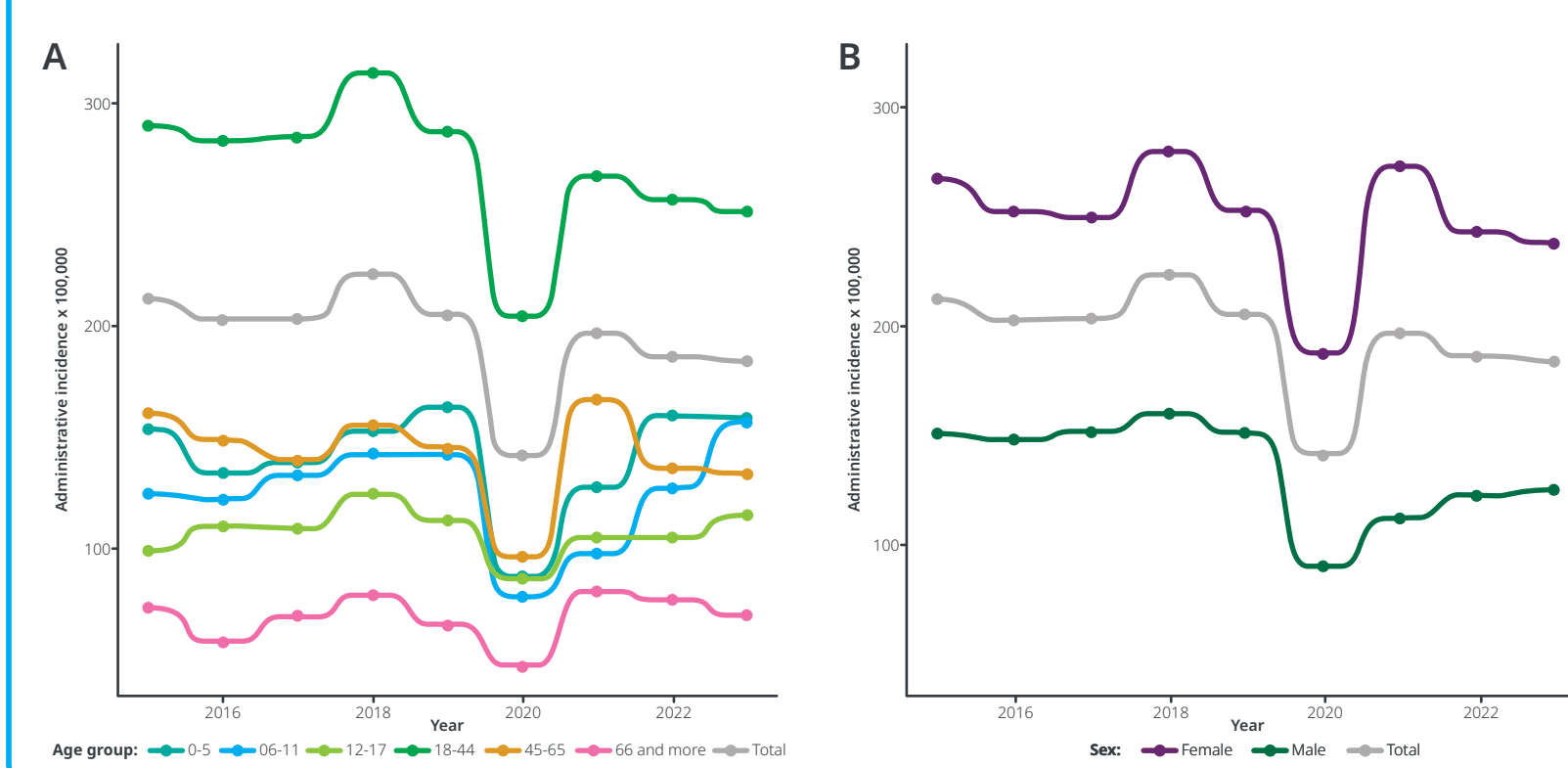
CONCLUSION

- The majority of patients with AA were females, working-age adults and had anxiety disorders as a main comorbidity. The annual administrative prevalence has been growing consistently since 2015 while the administrative incidence has been declining since that year.

- During the study period, adults under 45 years old and females presented the highest AA risk, with widening gaps in the AdP while, the gaps in the AdI have narrowed in recent years. The trend in young children is of concern, considering that both rates are increasing at a higher rate than in many other groups.

DISCUSSION

- The results of the study may be an underestimate of the rates of AdP and AdI, as they are limited to the frequency of consultation with health services in the HMO under study.

- Velasquez-Lopera[1], identified that in Latin America the prevalence of AA has a wide range (0.05%-3.8%), being this rate the lowest in Colombia. However, the source of that Colombian study refers to national records for 2018 that has data quality issues and therefore, some statistics derived from them may be inaccurate[2]. In our study the AdP ranged around 1.2% and 1.5%.

- Comorbid conditions related to vision and hearing loss have been described in association with AA[3-5], but were rare in the overall study population and more common in the elderly. Investigating these particularities could be a focus for future research.

- Pineda et al.[6] conducted a study from the National Registry of Alopecia Areata in Colombia (RENAAC) collecting data from cover 500 patients in 5 cities, they found that about a third of the AA patients presented skin diseases and less than 20% endocrine disorders. On the other hand, a study in one dermatological center in Colombia that included 257 patients found that cardiovascular diseases and endocrine disorders were present in 14% of the sample[7]. In our study, anxiety disorders, allergic rhinitis, primary hypertension, obesity and dyslipidemia were the most common comorbidities with important differences across age groups.

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