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Global Prevalence And Clinical Presentation Of Alopecia Areata: A Systematic Review

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BACKGROUND

Alopecia areata (AA) is an autoimmune, non-scarring hair loss disorder that may present with a broad spectrum of severity, and impose a substantial psychosocial burden, affecting self-esteem, emotional well-being, and quality of life.[1]

Despite increasing recognition of AA as an important dermatologic and immune-mediated condition, its epidemiology remains difficult to characterize consistently across settings and countries. Reported prevalence and incidence estimates vary widely according to study methods and geographies.[2,3]

A clearer understanding of the global burden and clinical presentation of AA is important for interpreting the existing evidence base, identifying limitations in current epidemiologic methods, and supporting healthcare planning and future research.

OBJECTIVES

- This study aimed to estimate the worldwide point and lifetime prevalence of AA.
- This review also summarized key presentation patterns, including disease severity, subtype distribution, extra-scalp involvement, and age at onset.

METHODS

- Systematic review following the recommendations of the Joanna Briggs Institute (JBI) Reviewer's Manual-Systematic Review of Prevalence and Incidence Data and scientific works from the Prevalence Estimates Reviews-Systematic Review Methodology Group (PERSyst)[4] and reported in line with the PRISMA guideline.[5]
- The protocol for this review was registered in PROSPERO (CRD42023491763).
- Electronic searches were conducted in MEDLINE via PubMed, Embase, and Global Index Medicus from inception to January 8, 2025.
- Eligible studies were cross-sectional or cohort studies reporting AA prevalence, incidence, or clinical presentation patterns.
- Point prevalence, lifetime prevalence, and pooled proportions for clinical characteristics were synthesized using random-effects meta-analyses of proportions in R.[6]
- Risk of bias was assessed using JBI and adapted Newcastle-Ottawa tools.
- Certainty of evidence was evaluated using GRADE.

RESULTS

From 2,503 screened references, 237 studies were included (**Figure 1**).

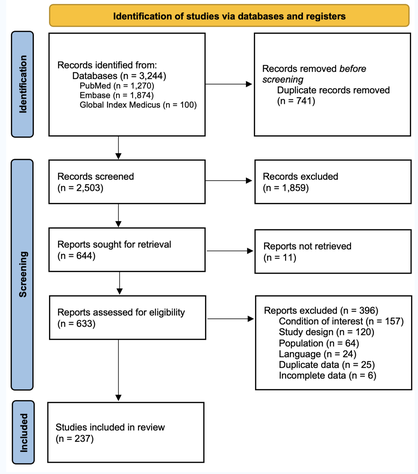

Figure 1, Study flow diagram as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020. (5)

Characteristics of included studies:

- Included studies were conducted in **general population**, **non-specialized healthcare**, and **specialized dermatology settings**, and included **adult and pediatric populations**.
- Reported data spanned **16 countries in general-setting point prevalence analyses**, with **82,865,578 individuals contributing to point prevalence analyses** and **217,885 patients contributing to clinical presentation analyses**.
- Nineteen studies exhibited an unclear or high risk of bias related to selection or misclassification.

Point prevalence estimates:

In general population settings, pooled **point prevalence of AA was 0.26%** (95% CI 0.15-0.44). (**Figure 2**) Among studies at low risk of bias, point prevalence was 0.12% (95% CI 0.08-0.19). In **specialized dermatology settings**, pooled **point prevalence was 1.90%** (95% CI 1.54-2.33). (**Figure 2**)

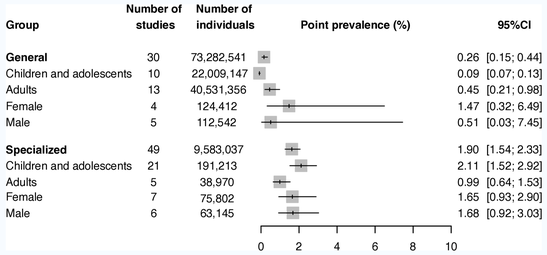

Figure 2, Pooled point prevalence of alopecia areata by type of setting, age and sex.

Lifetime prevalence estimates:

Self-reported lifetime prevalence in general settings was 3.81% (95% CI 2.14-6.71). **Registry-based lifetime prevalence estimates were substantially lower**, ranging from 0.02% to 0.03%.

Clinical presentation:

- **Limited scalp hair loss** was reported in **29.98% of cases** (95% CI 20.66-41.32).
- The **S1 SALT category** accounted for **47.23% of cases** (95% CI 36.67-58.05). (**Figure 3**)
- **Patchy AA** was the most frequent subtype (**74.44%**; 95% CI 69.34-78.96).
- **Disease onset** occurred most often **between 18 and 40 years** of age (40.18%; 95% CI 34.76-45.85).
- **Eyelashes** were the most common site of **extra-scalp involvement** (33.52%; 95% CI 21.93-47.50).

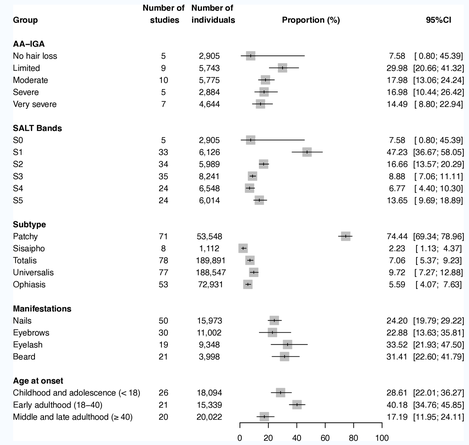

Figure 3,Clinical presentation of alopecia areata.

- Certainty of evidence was rated at very low for results of studies assessing point prevalence enrolling participants from the general population, and low for dermatology settings. The certainty of evidence of lifetime prevalence estimate was assessed as very low.

DISCUSSION

This review provides a broad synthesis of AA epidemiology and shows that **prevalence estimates vary substantially by setting, study design, and risk of bias**. Estimates from specialized settings were consistently higher than those from general population settings, likely reflecting referral patterns and access to specialist care rather than true population burden alone.

- The **low-bias point prevalence estimate may therefore better reflect the underlying burden of AA in the general population**.
- The **marked variability in lifetime prevalence** across studies also suggests important methodological differences, including sampling strategies, diagnostic definitions, and data sources.
- Clinically, most individuals presented with **limited scalp involvement and the patchy subtype**, with **onset concentrated in early adulthood**.
- Available evidence presents some limitations, with only around 20 countries represented in the estimates.

CONCLUSION

- Alopecia areata affects a meaningful proportion of the population worldwide.
- Estimates vary considerably according to study setting and methodological quality.
- The findings may inform interpretation of the evidence base, future research, healthcare planning, and public health strategies.
- More standardized epidemiological studies are needed to improve comparability across countries and settings.

DISCLOSURES

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REFERENCES

1. Pratt CH, King LE, Messenger AG, Christiano AM, Sundberg JP. Alopecia areata. Nat Rev Dis Primers. 2017;3:17011.

2. Lee HH, Gwillim E, Patel KR, Hua T, Rastogi S, Ibler E, et al. Epidemiology of alopecia areata, ophiasis, totalis, and universalis: a systematic review and meta-analysis. J Am Acad Dermatol. 2020;82(3):675-682.

3. Jeon JJ, Jung SW, Kim YH, Parisi R, Lee JY, Kim MH, et al. Global, regional and national epidemiology of alopecia areata: a systematic review and modelling study. Br J Dermatol. 2024;191(3):325-335.

4. Peters MDJ, Godfrey CM, McInerney P, Soares CB, Khalil H, Parker D. The Joanna Briggs Institute reviewers' manual 2015: methodology for JBI scoping reviews. 2015. http://joannabriggs.org/assets/docs/sumari/Reviewers-Manual_Methodology-for-JBI-Scoping-Reviews_2015_v2.pdf. Accessed August 13, 2024.

5. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.

6. Barker TH, Migliavaca CB, Stein C, Colpani V, Falavigna M, Aromataris E, et al. Conducting proportional meta-analysis in different types of systematic reviews: a guide for synthesisers of evidence. BMC Med Res Methodol. 2021;21(1):189.