A Systematic Review and Meta-Analysis of the Burdens of Alopecia Areata in the MENA Region: Prevalence, Comorbidities, and Impact on Quality of Life

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OBJECTIVE

This systematic review and meta-analysis is to evaluate the prevalence of AA and its subtypes in the MENA region, assess the associated comorbidities, and determine the impact of the condition on patients' quality of life.

CONCLUSIONS

AA Comorbids prevalences vary by study design and population, warranting further research. In MENA, AA is often linked to psychological and clinical comorbidities and significantly affects quality of life, highlighting the need for integrated care strategies.

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INTRODUCTION

Alopecia Areata (AA) is a chronic immune-mediated disorder causing non-scarring hair loss and impacting quality of life. Globally, the prevalence of AA ranges from 0.1% to 0.2%, while the lifetime incidence is approximately 2% of the general population, according to several epidemiological studies conducted in Europe, North America, and Africa [1-3].

METHOD

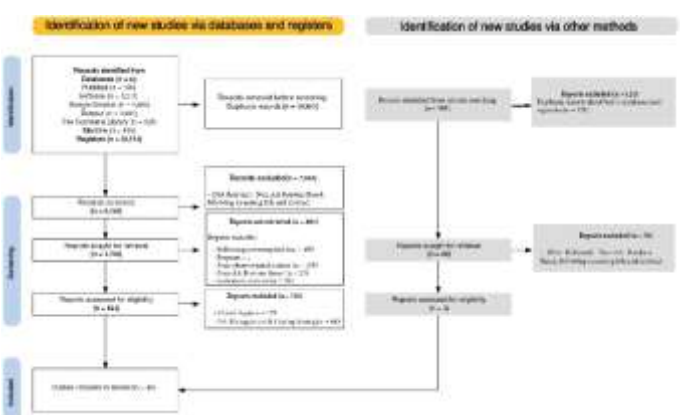
- A comprehensive PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) search of Databases [4], included *PubMed*, *Medline*, *Scopus*, *Embase*, *Cochrane Library*, and *Google Scholar*, from January 2014 to July 2025 included studies on AA epidemiology, HRQoL, burden, and comorbidities.
- Pooled prevalence was estimated using both Common Effects (CE) and Random Effects (RE) models in R software version 4.2.2, with 95% confidence intervals (CI) and a significance level of $p \leq 0.05$ [5].
- Heterogeneity was assessed using the Cochrane Q p-value and I^2 statistic, with values <50% indicating low heterogeneity [6].

RESULTS

Study selection and inclusion process

A total of 20,534 records were identified, 10,965 duplicates removed, 9,569 screened, 821 full texts assessed, and 40 studies (MENA Perspectives) were included in the systematic review and meta-analysis [7-46] - **(Figure 1)**.

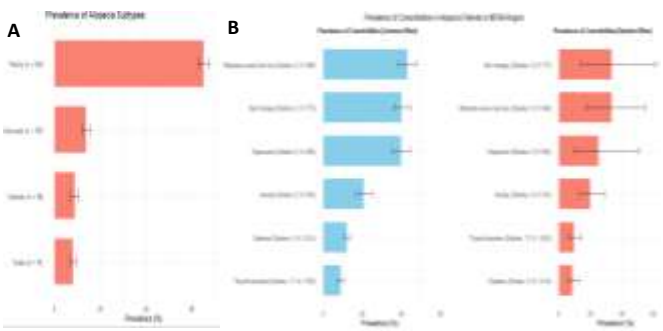
Figure 1: PRISMA Flow Diagram for Screening and Inclusion Process



The prevalence of clinical types and comorbidities among AA cases (Figure 2A; 2B)

- **Nail changes** (8 studies, n=773): prevalence of 39.92% [CE: 35.77%–44.22%] to 33.35% [RE: 13.53%–61.54%].
- **Moderate to severe hair loss (**8 studies, n=649): prevalence of 43% [CE: 38.55%–47.57%] to 33.33% [RE: 17.36%–54.33%].
- **Depression prevalence** (6 studies, n=662) was of 39.8% [CE: 35.5%–44.2%] - 25.05% [RE: 9.7%–50.9%].
- **Anxiety** (8 studies, n=914) showed a prevalence of 20.67% [CE: 17.08%–24.78%] to 19.83% [RE: 13.07%–28.92%].
- **Diabetes** (5 studies, n=3,414): prevalence of 12% [CE: 10.92%–13.16%] to 8.54% [RE: 5.73%–12.55%].
- **Thyroid disorders** (11 studies, n=1,953): prevalence of 8.72% [CE: 7.44%–10.20%] to 9.45% [RE: 6.38%–13.80%].

Figure 2: A) Clinical AA Types; B) Comrbids Prevalences Among Patients in MENA Region



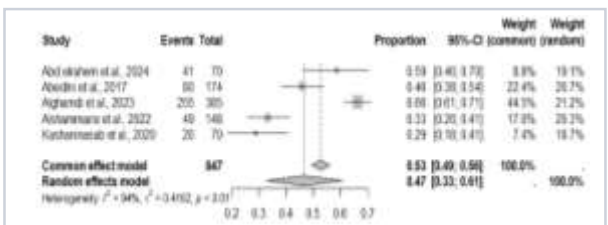
A Remarkable Burden: Prevalence of Alopecia Areata in the Kingdom of Saudi Arabia within the MENA Region

- **Alopecia areata in KSA** (4 studies, n=7,991): prevalence 13.13% [CE: 12.39%–13.92%] to 8.58% [RE: 3.63%–18.95%].

The prevalence of moderate to severe quality of life (QoL) impairment

- **(**5 studies, n=847) was estimated at 52.7% [CE: 49.2%–56.2%] - 46.6% [RE: 32.6%–61.1%] - **(Figure 3).**
- All estimates showed high heterogeneity ($I^2 > 75\%$, $p < 0.0001$).

Figure 3: Quality of life assessment in AA patients



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