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Scalp alopecia and mental health outcomes in young adults: mapping the evidence through a scoping review

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Abstract

Background: Scalp alopecia is common in young adults and may act as a psychosocial stressor with public health relevance. Evidence on mental health outcomes, quality of life (QoL) instruments, and health-seeking behaviour remains fragmented.

Design and methods: A scoping review was conducted using the Arksey and O'Malley framework and reported in accordance with PRISMA-ScR. PubMed, Scopus, PsycINFO and Web of Science were searched for studies published between January 2016 and February 2026. Studies involving young adults aged 18–35 years that examined scalp alopecia in relation to depression, anxiety, stress, QoL, or health-seeking behaviour were included. Data were charted and synthesized narratively, with an evidence map and tool-wise comparison.

Results: Twenty-two studies met the inclusion criteria. Most were cross-sectional and clinic-based. Depression and anxiety were the most frequently assessed outcomes, commonly measured using the Beck Depression Inventory (BDI) and Hospital Anxiety and Depression Scale (HAD). Stress was less consistently assessed. Quality of life was most often measured using the Dermatology Life Quality Index, while hair-specific tools such as HAIRDEX were used infrequently. Evidence on health-seeking behaviour was scarce, and institutional studies in university settings were limited.

Conclusions: Scalp alopecia is associated with adverse psychosocial outcomes in young adults, but existing evidence is skewed towards clinical settings. Public health research should prioritise institutional and community-based studies in low- and middle-income countries, include male students and young men, and integrate hair-specific QoL tools alongside routine mental health screening.

Keywords: Scalp alopecia, mental health, young adults, quality of life, health-seeking behaviour, scoping review

Introduction

Scalp alopecia includes androgenetic alopecia (AGA), alopecia areata (AA), telogen effluvium (TE) and other hair-loss disorders. Although alopecia is rarely associated with physical disability, scalp hair is closely tied to identity, attractiveness, and social functioning; visible hair loss may therefore produce substantial distress. Psych dermatology literature proposes bidirectional links between psychological stress and hair loss through neuroendocrine and immunological pathways, while hair loss itself may become a persistent stressor^{1,2}.

Young adulthood (18–35 years) is a sensitive developmental period characterized by identity formation, intensified peer comparison and occupational/academic pressures. University and other institutional settings may amplify appearance concerns and stress exposure, potentially increasing vulnerability to alopecia-related distress. However, existing research is heterogeneous: studies differ by alopecia subtype, cultural context, setting and choice of psychological or QoL instruments.

From a public health perspective, two additional gaps are important. First, most evidence is clinic-based, limiting generalisability to community or institutional populations. Second, health-seeking behaviour (e.g., delays in consultation, reliance on non-medical advice, and mental health service utilisation) is under-studied despite its relevance to prevention and

early intervention.

This scoping review maps the evidence on (i) depression, anxiety and stress due to hair loss, (ii) QoL measurement tools including hair-specific instruments (HAIRDEX/HAIRDEX-S) and dermatology QoL tools (DLQI, Skindex), and (iii) health-seeking behaviour related to scalp alopecia among young adults.

Methods

Design and reporting: We conducted a scoping review following the Arksey and O’Malley five-stage framework and reported according to the PRISMA-ScR checklist, which is provided as a Supplementary file.

Eligibility criteria (as per PCC):

Population: young adults aged 18–35 years (or studies where the majority of participants were in this age range or where young-adult subgroup data were reported).

Concept: scalp alopecia (AGA, AA, TE and other scalp hair-loss disorders) with at least one of: depression, anxiety, stress; QoL assessed by HAIRDEX/HAIRDEX-S, DLQI, Skindex (including hair-specific adaptations); or health-seeking behaviour (consultation patterns, delays, use of services).

Context: community, institutional (including universities/colleges), online surveys, and clinical settings.

Sources/ Content: peer-reviewed quantitative, qualitative or mixed-methods studies; systematic reviews were retained

for mapping and context.

Timeframe: 1 January 2016 to 5 February 2026.

Language: English.

Information sources and search strategy: We searched PubMed, Scopus, PsycINFO and Web of Science. Search concepts combined terms for alopecia/hair loss with mental health (depression, anxiety, stress), QoL and health-seeking behaviour. Reference lists of included studies and relevant reviews were hand-searched to identify additional eligible studies.

Selection process: Titles/abstracts were screened, followed by full-text assessment. We charted reasons for full-text exclusion.

Data charting and synthesis: We extracted evidence in the order of author/year, country, setting, design, alopecia type, population, instruments and key findings. Synthesis was narrative, supported by (i) a PRISMA-style flow diagram, (ii) Table 1 summarizing included studies and (iii) a tool-wise comparison table. We also created an evidence map matrix (Outcome × Setting × Region) to visualize evidence distribution.

Results

Study selection: Twenty-two studies were included in the final synthesis. A PRISMA-ScR flow diagram is provided in Figure 1.

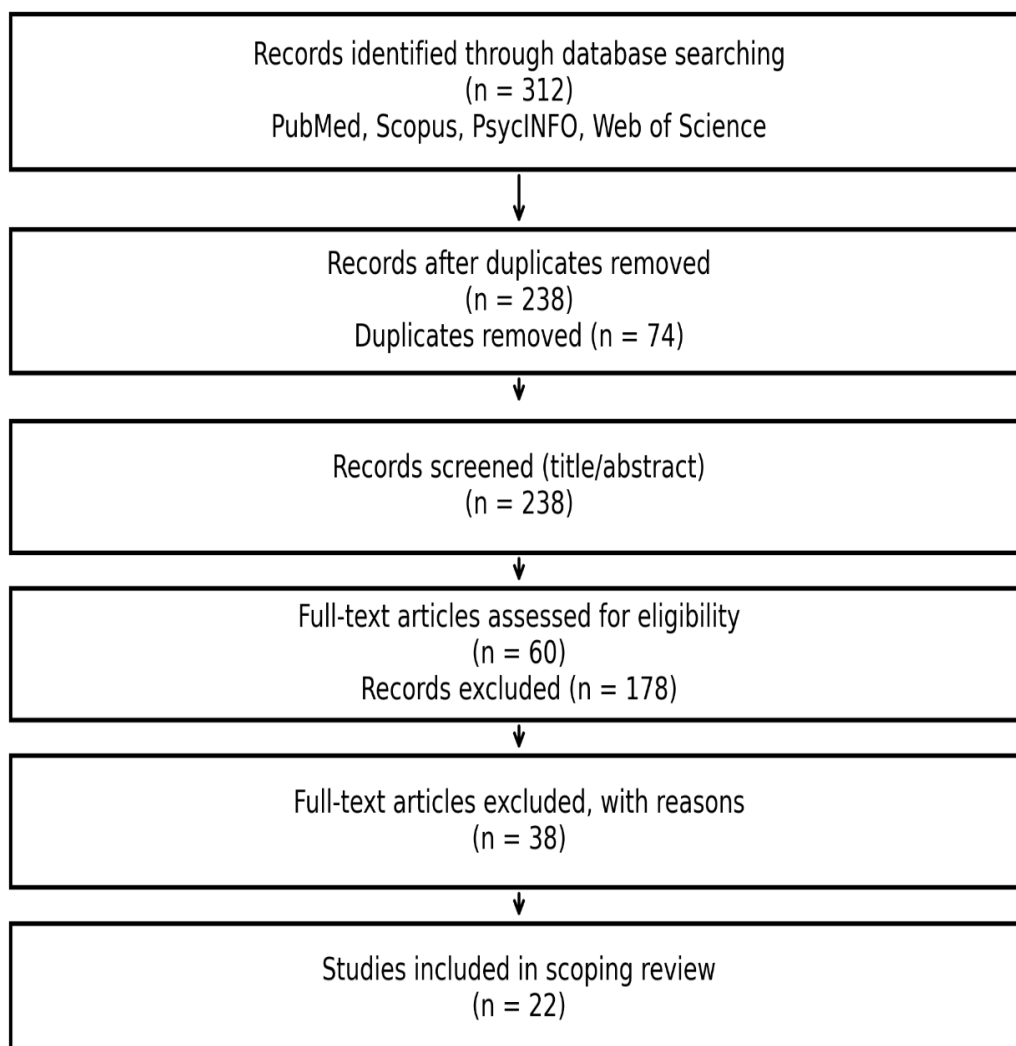


Fig. 1: PRISMA-ScR flow diagram for study identification, screening and inclusion.

Tables

Table 1. Characteristics of included studies (n=22).

Author Year	Country	Setting	Design	Alopecia	Population	Age	Sample	Outcomes	Tools	Reference (Vancouver style)
Karia et al., 2015	India	Clinic	Comparative	AA	Dermatology patients	Adults (mixed)	NR*	Psychiatric morbidity, QoL	Psychiatric assessment; QoL	Karia SB, De Sousa A, Shah N, Sonavane S, Bharati A. Psychiatric morbidity and quality of life in skin diseases: A comparison of alopecia areata and psoriasis. Indian J Psychiatry. 2015;57(4):364–8.
Chaudhury et al., 2017	India	Clinic	Case-control	AA	AA patient's vs controls	Adults	NR	Anxiety, depression	Anxiety/depression scales	Chaudhury S, Patnaik S, Mohanty M. Psychological morbidity in patients with alopecia areata. Indian J Dermatol. 2017;62(5):505–9.
Nadpara et al., 2017	India	Clinic	Observational	Mixed	Moderate alopecia patients	Adults	NR	Anxiety	Anxiety scale	Nadpara J, Patel N, Shah M. Study of anxiety in patients with moderate alopecia. Int J Res Dermatol. 2017;3(4):536–540.
Gonul et al., 2018	Turkey	Clinic	Comparative	AGA vs AA	Patients with AGA or AA	Adults (young-adult included)	NR	QoL	*HAIRDEX	Gonul M, Cemil BC, Ayvaz HH, Cankurtaran E, Ergin C, Gurel MS, et al. Comparison of quality of life in patients with androgenetic alopecia and alopecia areata. 2018;93(5):651–8.
Tas et al., 2018	Turkey	Clinic	Cross-sectional	AGA	AGA patients both sexes	Adults	353	Anxiety, depression, psychosexual	Questionnaires (anxiety/depression)	Tas B, Kulacaoglu F, Belli H, Altuntas M. The tendency towards the development of psychosexual disorders in androgenetic alopecia according to the different stages of hair loss: a cross-sectional study. An Bras Dermatol. 2018;93(2):185–90. doi:10.1590/abd1806-4841.20185658
Gupta et al., 2019	India	Clinic	Cross-sectional	AGA	Men with androgenetic alopecia	Adults (subgroup young)	200	QoL	DLQI, hair-specific Skindex-29	Gupta S, Kumar B, Jain R, et al. Quality of life assessment in patients with androgenetic alopecia. Indian J Dermatol Venereol Leprol. 2019;85(2):148–54.
Rajoo et al., 2019	Australia	Community	Cross-sectional	AA (severe hair loss)	AA individuals	Adults (young-adult)	83	Mental health	Mental health measures; PA levels	Rajoo Y, Smith A, Jones B, et al. The relationship between physical activity

						inclusive)				levels and symptoms of depression, anxiety, and stress in individuals with alopecia areata: a cross-sectional study. <i>PLoS One</i> . 2019;14(5):e0216300. doi: 10.1371/journal.pone.0216300
Velez-Muniz et al., 2019	Mexico	Clinic	Cross-sectional	AA	AA patients (adults and children)	Adults included	126	Depression, anxiety, suicide risk, QoL	HADS; QoL tools	Vélez-Muñiz RC, Arias SS, Buendía-Eisman A, Salazar NM. Psychological profile and quality of life of patients with alopecia areata: a descriptive observational study between adults and children. <i>Int J Dermatol</i> . 2019;58(3):315–323.
Prasanna et al., 2020	India	Institutional	Cross-sectional	AGA	Male medical students	~18–25	NR	Depression, loneliness	Depression scale (reported as BDI in thesis context); loneliness; internet addiction	Prasanna H, Öztekin C, Öztekin A. Association of depression, loneliness, and internet addiction levels in male medical students with androgenetic alopecia. <i>Biopsychosoc Med</i> . 2020;14:1–8.
Toussi et al., 2020	Global	Review	Systematic review	AA	Various	All ages	Multiple	Psychiatric comorbidity, QoL	Various	Toussi A, Barton VR, Le ST, et al. Psychosocial and psychiatric comorbidities and health-related quality of life in alopecia areata: a systematic review. <i>J Am Acad Dermatol</i> . 2020;83(2):675–685.
Huang et al., 2021	Global	Review	Systematic review/meta-analysis	AGA	Various	All adults (young-adult inclusive)	13 studies+	HRQoL, depression, self-esteem	Various	Huang KP, Mullangi S, Guo Y, Qureshi AA. Health-related quality of life, depression, and self-esteem in patients with androgenetic alopecia: a systematic review and meta-analysis. <i>JAMA Dermatol</i> . 2021;157(8):963–970.
Ito et al., 2022	Multi-country	Online	Web-based survey	AA	AA respondents	Adults	NR	QoL, anxiety/depression	DLQI, HADS, SF-36	Ito T, et al. International web-based survey of quality of life and psychological burden in alopecia areata. <i>J Dermatol</i> . 2022;49(3):289–298.
Moorthy et al., 2022	NR (clinic-)	Clinic	Cross-sectional	AGA	AGA patients	Adults	NR	QoL	HRQoL tool (reported)	Moorthy SK, Schwartz RA. Quality of life in

	based)									patients with androgenetic alopecia: assessment using generic and disease-specific instruments including HAIRDEX. Clin Cosmet Investig Dermatol. 2022;15:419–425.
Van Dalen et al., 2022	Global	Review	Systematic review/meta-analysis	AA	Children and adults	All ages	Multiple	Anxiety, depression, QoL	Various	Van Dalen M, et al. Anxiety, depression, and quality of life in children and adults with alopecia areata: a systematic review and meta-analysis. Front Med (Lausanne). 2022;9:838757.
Aukerman & Jaffery, 2022	Global	Review	Systematic review	AGA	Various	Adults	13 studies	Psychosocial impact	Various	Aukerman EL, Jaffery M. The psychological consequences of androgenetic alopecia: A systematic review. J Cosmet Dermatol. 2022;22(1):89–95.
Sengupta et al., 2023	India	Clinic	Cross-sectional	AA	AA outpatients	Adults	44	Anxiety, depression	HADS	Sengupta S, Ghosh A, De P, Ghosh PK, Nandi S. A hospital-based cross-sectional study measuring the psychological comorbidities associated with alopecia areata in Indian patients. J Indian Med Assoc. 2023;121(11):18–21.
Yu et al., 2023	China	Clinic	Cross-sectional	Androgenetic alopecia	AGA patients	Adults (young-adult included)	NR	Anxiety, depression	Anxiety/depression scales; mentions HAIRDEX background	Yu L, Moorthy SK, Peng L, Shen L, Han Y, Zhang Z, et al. Evaluation of anxiety and depression in patients with androgenetic alopecia in Shanghai: a cross-sectional study. Dermatol Ther. 2023;2023:1–9
Fhager et al., 2023	Sweden	Clinic	Psychometric validation	AA	AA patients	Adults (including young adults)	NR	QoL instrument validation	HAIRDEX-S	Fhager J, Svensson A, Örmön K, Fischer TW, Sjöström K. The Hairdex quality of life instrument — a translation and psychometric validation in patients with alopecia areata. Skin Health Dis. 2023;3(3):e220.
Muntyanu et al., 2023	Global	Review	Scoping review	AA	Various	All ages	NR	Burden, QoL, mental health	Various	Muntyanu A, Gabrielli S, Donovan J, Gooderham M, Guenther L, Hanna

										S, Lynde C, Prajapati VH, Wiseman M, Netchiporouk E. The burden of alopecia areata: a scoping review focusing on quality of life, mental health and work productivity. <i>J Eur Acad Dermatol Venereol.</i> 2023;37(8):1490–1520. doi:10.1111/jdv.18926.
Fatma et al., 2024	India	Clinic	Cross-sectional	FPHL*	Women with FPHL	Adults (younger subgroup <=30)	66	QoL	HAIRDEX, DLQI, VAS	Fatma KH, Rambhia KD, Kinge K, Rambhia D. Assessment of quality of life in patients with female pattern hair loss in a tertiary care hospital in India. <i>Int J Community Med Public Health.</i> 2024;11(5):1936–41.
Ghaffar et al., 2024	Pakistan	Institutional	Survey	Hair fall (pattern via Ludwig)	Young females	15–25	1015	Stress	DASS, Ludwig scale*	Ghaffar F, Naz L, Khurram R, Ramzan A, Arif H. Prevalence and risk factor of hair fall and its relation with stress in healthy female subjects: a survey-based study. <i>J Pak Assoc Dermatol.</i> 2024;34(2):506–510.
Izci et al., 2025	Turkey	Clinic	Case-control	TE	TE patients vs controls	Adults (young-adult inclusive)	205+105	Stress, depression, anxiety, QoL	PSS, BDI, BAI, DLQI*	Izci NF, Ozcan H, Aydin F, et al. Significant impact of telogen effluvium on quality of life, depression, anxiety and stress: a prospective case-control study. <i>Eur J Dermatol.</i> 2025;35(4):300–306.

* BAI-Beck Anxiety Inventory, DASS-Depression anxiety stress scale, DLQI-Dermatology Life Quality Index, FPHL-Female Pattern Hair Loss, HAIRDEX – Hair Disease-Specific Quality of Life Questionnaire, NR-Not recorded, VAS – Visual Analogue Scale

Table 2. Tool-wise comparison of mental health and quality-of-life instruments used in alopecia research.

Tool	Domain	Type	Items	Typical cut-offs	Used in included studies
BDI / BDI-II	Depression	Generic mental health	21	0–9 minimal; 10–18 mild; 19–29 moderate; ≥30 severe	Izci 2025; cohort/other contexts; student studies (Prasanna 2020)
HADS	Anxiety & Depression	Generic mental health	14	Subscale 0–7 normal; 8–10 borderline; ≥11 abnormal	Sengupta 2023; Ito 2022; Velez-Muniz 2019; AA reviews

*GAD-7	Anxiety	Generic mental health	7	5/10/15 mild/moderate/severe	Used in broader AGA cohort literature (contextual)
DASS-21	Depression, Anxiety, Stress	Generic mental health	21	Severity bands per domain	Ghaffar 2024
PSS	Perceived stress	Generic stress	10 or 14	Higher score = higher stress	Izci 2025; FPHL/BDNF 2023 (context)
DLQI	Dermatology QoL	Dermatology-specific	10	0–1 no effect; 2–5 small; 6–10 moderate; 11–20 very large; 21–30 extremely large	Gupta 2019; Fatma 2024; Ito 2022; Izci 2025
Skindex-29 (hair-specific adaptation in AGA)	Symptoms/emotions/functioning	Dermatology QoL	29	Domain scores (0–100)	Gupta 2019
HAIRDEX / HAIRDEX-S	Hair disease QoL	Hair-specific QoL	48	No universal cut-offs; higher = worse QoL	Gonul 2018; Fatma 2024; Fhager 2023

*GAD-General Anxiety Disorder

Evidence map

Figure 2 visualizes the distribution of included studies by outcome domain and study setting. The evidence clusters in

clinic-based studies, with minimal institutional studies and no eligible studies focusing primarily on health-seeking behavior.

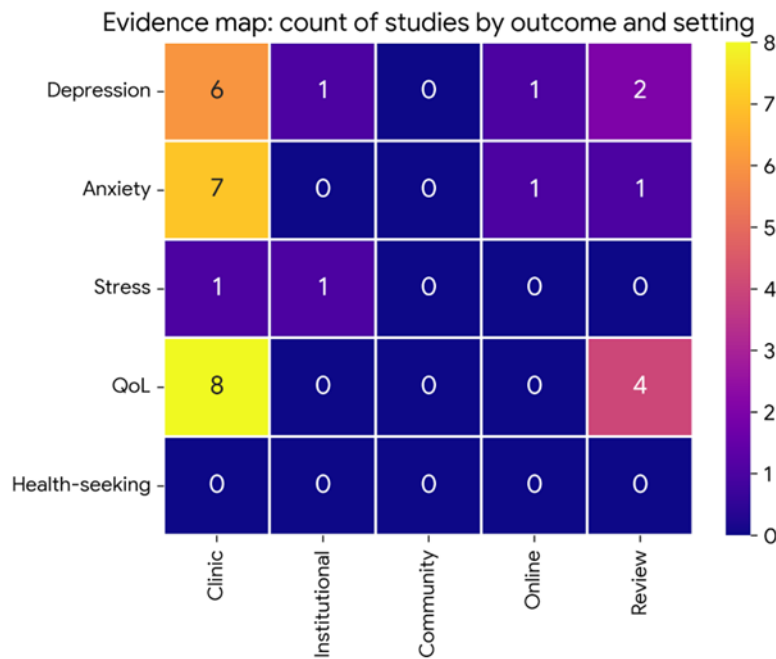


Fig. 2: Evidence map (Outcome × Setting): counts of included studies.

Narrative synthesis

Mental health outcomes

Depression and anxiety were the most frequently assessed outcomes. Included studies commonly used BDI/BDI-II or HADS, with several studies reporting higher symptom burden among participants with alopecia than controls. Stress was assessed inconsistently and was typically measured using the PSS or DASS in the small number of studies that explicitly included stress^{3,4,5,6}. Institutional studies (e.g., among students) remain limited, suggesting a need to broaden sampling contexts.

Quality of life outcomes and instruments

QoL was assessed in many studies, most often using the DLQI^{5,6,8,9}. Hair-specific tools such as HAIRDEX/HAIRDEX-S^{7,10} and hair-specific Skindex adaptations⁹ were used less frequently, despite their relevance for capturing appearance-related distress. Where used, hair-specific instruments suggested substantial emotional and functional impairment, particularly among younger participants.

Health-seeking behaviour

Across eligible literature, evidence on health-seeking behaviour among young adults with scalp alopecia was sparse. Very few studies have quantified pathways to care (e.g., consultation delays, reliance on non-medical sources, or use of mental health services). This represents a major gap for public health research and intervention design.

Discussion

This scoping review mapped 22 studies on scalp alopecia and mental health-related outcomes in young adults over the past few years to generate the evidence which is current and relevant. Overall, the evidence supports alopecia as a psychosocial stressor associated with depression/anxiety symptoms and poorer QoL^{5,6,7,8}; however, the evidence base is uneven in three ways.

First, studies were predominantly clinic-based, which likely over-represents more severe or treatment-seeking cases. Institutional settings (universities/colleges) were uncommon, despite being a key context for young adults. This is both a strength and a weakness of the study, as the sample comprises adults seeking advanced education. The study also examines scalp hair health from a public health perspective, which suggests preventive measures to prevent hair loss in young adults.

Second, the selection of instruments varied. Generic tools (BDI, HADS) were frequently used for mental health screening,^{3,4,5} and the DLQI was the most commonly used dermatology QoL measure. Hair-specific QoL tools (HAIRDEX/HAIRDEX-S; hair-specific Skindex adaptations)^{7,9,10} were underutilised, potentially limiting sensitivity to hair-related psychosocial burden.

Third, health-seeking behaviour was rarely examined as a primary outcome. This is a critical omission for public health: pathways to initiate care, tackle misinformation, guide cosmetic product use, and, eventually, mental health service utilisation to determine distress for early intervention¹¹.

Implications for public health: In institutional settings, student wellness programs could incorporate brief mental health screening when students present with visible hair loss and provide evidence-based guidance on care options. Future research in LMIC contexts should use community-based or institutional sampling, explicitly include male students and young men (often under-studied), and integrate hair-specific QoL tools to better quantify burden and guide supportive interventions.

Conclusion

The evidence indicates that scalp alopecia is associated with adverse psychosocial outcomes in young adults, but research is concentrated in clinical settings and rarely addresses health-seeking behaviour. Public health research should expand into institutional and community contexts in LMICs and adopt harmonised measurements using both mental health screening tools and hair-specific QoL instruments.

Funding

None.

Conflicts of interest

None declared.

Ethics

Ethics approval was sought for a larger cross-sectional study as per Reference number KIIT/KIMS/IEC/1511/2024 and this scoping review is extracted from review of literature done for the same.

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