

## Supplementary Online Content

Huang C-H, Fu Y, Chi C-C. Health-related quality of life, depression, and self-esteem in patients with androgenetic alopecia: a systematic review and meta-analysis. *JAMA Dermatol*. Published online July 7, 2021. doi:10.1001/jamadermatol.2021.2196

**eTable 1.** Search Strategy

**eTable 2.** Summary of Included Studies

**eTable 3.** Factors Associated With Health-Related Quality of Life in Androgenetic Alopecia

**eFigure 1.** Dermatology Life Quality Index Score in Androgenetic Alopecia Patients of Different Sexes

**eFigure 2.** Dermatology Life Quality Index Score in Androgenetic Alopecia Patients in Asia and Europe

This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1. Search Strategy**

#1	androgenetic alopecia OR androgenic alopecia OR pattern hair loss OR pattern alopecia OR baldness
#2	health status OR health stat* OR quality of life OR quality of life OR patient preference OR preference* OR utilit* OR questionnaire OR health survey OR self report OR well being OR wellbeing OR Quality-Adjusted Life Year OR QALY* OR Quality adjusted life year* OR Quality-adjusted life year* OR life quality OR QOL OR HRQL OR HRQOL
#3	Mental disorders OR serious mental illness OR mental health OR mental illness OR mental disorder OR mental disease OR mental problem OR depression OR bipolar Disorder OR Addiction OR adjustment disorder OR anxiety OR anxiety disorder OR behavior disorder OR emotional disorder OR mood disorder OR neurosis OR personality disorder OR psychosexual disorder OR psychosis OR psychosomatic disorder OR psychotrauma disorder OR PTSD OR schizophrenia spectrum disorder OR schizoaffective
#4	EuroQol OR EQ5D OR EQ-5D OR SF-8 OR SF 8 OR SF8 OR short form 8 OR shortform-8 OR short-form-8 OR shortform 8 OR SF-36 OR SF36 OR SF 36 OR short form 36 OR shortform 36 OR shortform-36 OR short-form-36 OR RAND 36 OR RAND-36 OR RAND36 OR SF-12 OR SF12 OR SF 12 OR short form 12 OR shortform 12 OR shortform-12 OR short-form-12 OR short-form-12 OR Medical Outcomes Survey OR MOS OR WHOQOL-100 OR WHOQOL 100 OR World Health Organization Quality of Life assessment OR WHOQOL-BREF OR WHOQOL BREF OR Assessment of Quality of Life OR AqoL OR DLQI OR Dermatology Life Quality Index OR Skindex OR Scalpdx OR hairdex OR Kingsley Alopecia Profile OR KAP OR State-Trait Anxiety Inventory OR STAI OR the Big Five Questionnaire OR BFQ OR Trait Emotional Intelligence Questionnaire OR TEI-Que-SF OR StateTrait Anxiety Inventory OR STAI OR Social Phobia Scale OR SPS OR Social Interaction Anxiety Scale OR SIAS OR Self-Perception Scale OR SPS OR Rosenberg Self-Esteem Scale OR RSES OR Beck Depression Inventory OR BDI OR Beck Anxiety Inventory OR BAI OR Brief Illness Perception Questionnaire OR BIPQ OR Self-rating Depression Scale OR SDS OR Self-rating Anxiety Scale OR SAS OR General Health Questionnaire OR GHQ-12 OR Coping Orientations to Problems Experienced OR COPE OR Toronto Alexithymia Scale-20 OR TAS-20 OR Hospital Anxiety and Depression Scale OR HADS OR UCLA Loneliness Scale OR UCLA-LS OR symptom checklist 90 revised OR SCL90R OR skindex OR Turkish quality of life instrument for skin disease OR TQL
#5	Anxiety assessment OR Anxiety Sensitivity index OR Beck Anxiety inventory OR Death Anxiety Scale OR Depression Anxiety Stress Scale OR Hamilton Anxiety Scale OR Hospital Anxiety and Depression Scale OR Liebowitz Social Anxiety Scale OR manifest anxiety Scale OR psychological distress assessment OR self-rating anxiety scale OR Social interaction Anxiety scale OR Social Phobia scale OR State Trait Anxiety inventory OR Yale Brown Obsessive Compulsive Scale OR Behavior disorder assessment OR Addiction severity scale OR Alcohol Use Disorder Identification Test OR eating disorder assessment OR Yale Brown Cornell Eating Disorder Scale OR Dissociative experiences scale OR general mental disease assessment OR Brief Psychiatric Rating scale OR Clinical Global Impression scale OR comprehensive psychopathological rating scale OR Diagnostic Interview Schedule OR Global Assessment of Functioning OR Katz Adjustment Scales OR MacArthur Competence Assessment OR Millon Clinical Multiaxial Inventory OR mini international neuropsychiatric interview OR Pain Catastrophizing scale OR patient health questionnaire OR Psychiatric Symptom Index OR Psychosocial Adjustment to Illness Scale OR Structured Clinical Interview for DSM Disorders OR Symptom Checklist 90 OR mood disorder assessment OR depression

	assessment OR mania assessment OR Mood Disorder Questionnaire OR Profile of Mood states OR neuropsychiatric inventory OR personality disorder assessment OR Hare Psychopathy Checklist OR Personality disorder Questionnaire OR Psychotrauma assessment OR Childhood Trauma Questionnaire OR Impact of Events Scale OR Schizophrenia assessment OR Positive and Negative Affect Schedule OR Positive and Negative Syndrome Scale OR Schedule for Affective Disorders and Schizophrenia
#6	#2[title/abstract] or #4[text word]
#7	#3[title/abstract] or #5[text word]
#8	#1[title/abstract] AND (#6 or #7)

**eTable 2.** Summary of Included Studies

<b>Author, year, country</b>	<b>Study period</b>	<b>Study type</b>	<b>Patient characteristics</b>	<b>Mean age, disease duration</b>	<b>HRQOL or Psychological instrument</b>	<b>Mean HRQOL score or Psychiatric result</b>
Kutlu, 2021, <sup>28</sup> Turkey	Not reported	Case series	21 women; Sinclair II/III/IV/V: 2/8/9/2	32.05 years; disease duration: 5.5 years	DLQI	11 (median)
Elsaie, 2020, <sup>55</sup> Egypt	Not reported	Cross-sectional survey	400 men; No severity record	No age record; Duration: <1 year/1-5 year/>5year: 58/114/148	WHOQOL-BREF	Total: 52.4 ± 12.7; Physical: 15.5 ± 3.8; Psychological: 13.3 ± 3.7; Social: 7.7 ± 2.8; Environment: 15.9 ± 5.3
Katoulis, 2020, <sup>43</sup> Greece	Jun. 2018-May 2019	Randomized clinical trial	41 (M/F 18/23); No severity record	(Study/Control) Median age: 44/43; Median duration: 9.5/5	DLQI	(Study/Control) 4/4
Ramos, 2020, <sup>45</sup> Brazil	24 weeks	Randomized clinical trial	52 women (Control/Study: 26/26); Severity: Sinclair II/III/IV: Control: 15/10/1; Study: 17/8/1	43.95 years; no duration record	WAA-QOL	68/60
Vastarella, 2020, <sup>32</sup> Italy	Jul. 2019-Jul. 2020	Case series	12 women	36.66 years,	WAA-QOL	70.33 (median)

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Chyi, 2019, <sup>48</sup> Malaysia	Jan. 2016 – June 2016	Cross-sectional survey	125 (M/F 84/41); Severity: Norwood Gr. I/II/IIA/III/IIIv/IIIA/IV/IVA/V: 17/14/28/9/10/2/2/1/1; Ludwig 1/2/3: 41/0/0	Age >21 years; no duration record	DLQI	3.94 ± 0.37
Guerra-Tapia 2019, <sup>46</sup> Spain	Jan. 2018 – Oct. 2018	Cross-sectional survey	983 women Severity: Sinclair alopecia scale Gr. I/II/III/IV/V/unknown: 231/364/263/66/3/56	50 years; no duration record	HSS-29	Total: 27.59 ± 18.71, Function: 19.31 ± 20.97; Emotion: 37.77 ± 23.06; Symptom: 27.28 ± 18.85
					SF-12	PCS: 46.24 ± 6.38; MCS: 42.08 ± 8.18
Gupta, 2019, <sup>38</sup> India	Not reported	Cross-sectional survey	200 men; Severity: Hamilton-Norwood Gr. I/II/IIA/III/IIIA/IIIV/IV/IVA/V/VA/VI/VII: 13/22/22/21/20/19/24/17/13/15/10/4	32 years; disease duration: 5.8 years	DLQI	Total: 13.52 ± 3.15
					HSS-29	Functioning: 25.89 ± 4.814; Symptoms: 22.01 ± 5.025; Emotions: 27.73 ± 5.942; Global: 75.62 ± 13.78
Liu, 2019, <sup>16</sup> China	Jan. 1, 2014 – June 1, 2017	Cross-sectional survey	875 men; Hamilton Gr. I/II/III/IV/V: 70/274/335/123/73	30.85 years; no duration record	RSES	29.79 ± 5.750

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Russo, 2019, <sup>29</sup> Italy	Sep. 2016 - Sep. 2017	Cross-sectional survey	80 (M/F 23/57) Severity: Hamilton-Norwood Gr. I-III: 21/43; Gr. IIIA-IVA: 2/13	38.77 years; no duration record	DLQI	2.47 ± 2.9 / 7.32 ± 5.82
					BFQ	Energy/extraversion: 3.08 ± 0.35/3.01 ± 0.39; Conscientiousness: 3.58 ± 0.54/3.43 ± 0.56; Emotion stability: 3.07 ± 0.63/2.64 ± 0.63; Agreeableness: 3.35 ± 0.42/3.29 ± 0.47; Openness: 3.57 ± 0.49/3.44 ± 0.54
					TEI-Que-SF	145.9 ± 15.6/131.5 ± 18.1
					STAI	42.8 ± 5.97/49.4 ± 9.94
					SPI	18.0 ± 6.14/25.4 ± 9.91
					SIAS	15.2 ± 4.07/21.5 ± 9.19
Danyal, 2018, <sup>41</sup> Pakistan	Not reported	Cross-sectional survey	60 men (mild to moderate hair loss / severe hair loss: 30/30)	23.14 years; no duration record	HAM-A	20.23 ± 1.40/15.46 ± 1.08
					RSES	16.46 ± 1.07/17.3 ± 1.0
					SDS	38.3 ± 1.16/35.3 ± 0.8
Ghimire, 2018, <sup>47</sup> Nepal	July 2017 – Feb. 2018	Cross-sectional survey	120 men	31.87 years; no duration record	DLQI	Total 2.79

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Gonul, 2018, <sup>24</sup> Turkey	Not reported	Cross-sectional survey	82 (M/F, 30/52), severity: Ludwig I/II/III: 2/38/12; Hamilton I/II/IIa/III/IIIa/III vertex/Va/VI: 6/9/1/5/3/4/1/1	30.13 years; Disease duration: 3.14 years	Total Hairdex	Total: 68.43 ± 31.58; Emotions: 34.45 ± 20.21; Functions: 5.71 ± 4.07; Symptoms: 8.85 ± 6.64; Self-confidence: 13.82 ± 6.81; Stigmatization: 5.60 ± 6.13
					TQL	14.69 ± 10.15
Jun, 2018, <sup>39</sup> Korea	Mar. 2012 – Feb., 2017	Cross-sectional survey	380	No mean age and disease duration record	HSS-29	Functioning: 26.9 Symptoms: 29.3 Emotions: 43.8 Global: 34.3
Katoulis, 2018, <sup>44</sup> Greece	Not reported	Randomized clinical trial	39 women; severity: Olsen pattern: 6, Ludwig I/II/III: 15/13/5	52 years; Duration: 9 years	DLQI	Total 4
Lin, 2018, <sup>15</sup> China	Sep. 2015 – Oct. 2017	Cross-sectional survey	159	No mean age and duration record	DLQI	Total: 8.77 ± 5.23
					CES-D	14.87 ± 9.81

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Tas, 2018, <sup>25</sup> Turkey	Oct. 2013 – May 2014	Cross-sectional survey	353(M/F: 283/70); Hamilton-Norwood II/IIA/III/IIIA/IIIV/IV/IVA: 44/96/61/31/21/19/11 Ludwig I/II/III: 6/45/19	24.87 years; Disease duration 1- 3 years	SPS	134.92 ± 26.81/104.4 ± 17.98
					RSES	15.76 ± 5.33/11.57 ± 2.88
					ASEX	17.52 ± 4.41/22.24 ± 3.3
					BDI	8.82 ± 5.07/14.74 ± 4.44
					BAI	5.95 ± 3.83/11.93 ± 4.85
Wang, 2018, <sup>17</sup> China	Not reported	Cross-sectional survey	355 college students (M/F 340/15)	Age range 17-40 years; no duration record	SCL-90-R	Somatization: 1.78 ± 0.53; Obsessive-compulsive: 1.74 ± 0.51; Interpersonal sensitivity: 1.53 ± 0.51; Depression: 1.57 ± 0.50; Anxiety: 1.49 ± 0.49; Hostility: 1.49 ± 0.56; Phobic anxiety: 1.43 ± 0.36; Paranoid ideation: 1.44 ± 0.45; Psychoticism: 1.48 ± 0.44; GSI: 1.50 ± 0.46
Mao, 2017, <sup>18</sup> China	Feb. 2016 – Jun. 2016	Cross-sectional survey	161 (M/F 117/44)	No mean age and duration record	DLQI	Total: 8.97 ± 5.24
					CES-D	14.89 ± 9.82



<b>Author, year, country</b>	<b>Study period</b>	<b>Study type</b>	<b>Patient characteristics</b>	<b>Mean age, disease duration</b>	<b>HRQOL or Psychological instrument</b>	<b>Mean HRQOL score or Psychiatric result</b>
Sanclemente, 2017, <sup>49</sup> Colombia	Not reported	Cross-sectional survey	47	No mean age and duration record	HSS-29	Functioning: 12.5 ± 16.5; Symptoms: 18.8 ± 18.1; Emotions: 30.8 ± 23; Global: 20.3 ± 15.2
Zhang, 2017, <sup>19</sup> China	Jan. 1, 2013 – Dec. 31, 2015	Cross-sectional survey	123	No mean age and duration record	DLQI	5.51 ± 5.03
Sancak, 2016, <sup>26</sup> Turkey	Dec. 2013 – June 2015	Case-control, study	115 premenopausal women	36.28 years; no duration record	FSFI	Total: 25.43 ± 6.88
Shilpashree, 2016, <sup>36</sup> India	Jan. 2013 – Dec. 2013	Cross-sectional survey	100 women; Sinclair scale Gr. II/III/IV/V: 79/11/9/1	29.9 years; disease duration 2.5 years	mWAA-QOL	36.10 ± 6.91; Sinclair scale: Gr. II: 35.89 ± 3.33; Gr. III: 36.01 ± 7.89; Gr. IV: 36.82 ± 7.55; Gr. V: 37

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Yu, 2016, <sup>20</sup> China	Oct. 2013 – Dec. 2014	Cross-sectional survey	212 (M/F: 133/79)	30.34 years; disease duration 4.46 years	BIPQ	Total score: 43.76 ± 8.86; Consequences: 5.65 ± 2.69; Timeline: 6.16 ± 2.68; Personal control: 5.18 ± 2.34; Treatment control: 4.11 ± 2.02; Identity: 4.14 ± 2.33; Concern: 7.96 ± 2.26; Coherence: 4.82 ± 2.58; Emotion: 5.75 ± 2.83
					SDS	44.43 ± 9.28 (SDS > 53: n = 36)
					SAS	40.44 ± 9.21 (SAS > 50: n = 40)
					DLQI	Total DLQI: 8.30 ± 5.04; Symptoms and feelings: 2.26 ± 1.48; Daily activities: 1.95 ± 1.74; Leisure: 1.07 ± 1.56; Work and school: 1.84 ± 0.83; Personal relationships: 0.61 ± 0.98; Treatment: 0.57 ± 0.57
Lan, 2015, <sup>21</sup> China	Oct. 2012 – Oct. 2013	Cross-sectional survey	165 men	29.7 years; disease duration 5.2 years	DLQI	Total: 5.50 ± 4.44
					VAS	31.39 ± 21.08%
Tahir, 2013, <sup>42</sup> Pakistan	Apr. 2010 – Sep. 2010	Cross-sectional survey	125 (M/F 53/72); Severity: mild/moderate/severe: 50/45/30	29.01 years; no duration record	DLQI	12.8 ± 3.76

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Monselise, 2013, <sup>50</sup> Canada	Not reported	Case-control study	35 (M/F 9/26);	38.4 years; no duration record	EQ-i	Total: 95.1 ± 16.5; Self-Regard: 96.8 ± 15.9; Emotional Self-Awareness 99.9 ± 15.1; Assertiveness: 98.3 ± 17.2; Independence: 99.1 ± 16.9; Self-Actualization: 94.4 ± 16.4; Empathy: 95.3 ± 14.6; Social Responsibility: 97.0 ± 12.4; Interpersonal Relationship: 95.6 ± 15.6; Stress Tolerance: 96.0 ± 15.7; Impulse Control: 99.6 ± 14.2; Reality Testing: 94.9 ± 17.3; Flexibility: 100.1 ± 16.1; Problem Solving: 95.2 ± 15.1; Optimism: 95.9 ± 17.0; Happiness: 95.3 ± 16.8
Tabolli, 2013, <sup>30</sup> Italy	Oct. 2009 – May 2011	Case-control study	351 (M/F 237/114); Hamilton-Norwood: mild/moderate/severe: 136/94/7; Ludwig: Gr. I/II: 104/10	35.63 years; no duration record	SF-12	PCS: 53.3 ± 6.9; MCS: 43.1 ± 11.1
					TAS-20	Total: 42.9 ± 12; DIF: 13.7 ± 6.2; DDF: 11.4 ± 4.5; EOT: 17.8 ± 4.8
					COPE	PFC: 11.3 ± 1.8; AEC: 9.8 ± 1.7; AC: 6.7 ± 1.4
					GHQ-12	13.4 ± 6

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Zhuang, 2013, <sup>22</sup> China	Feb. 2011 – June 2011	Cross-sectional survey	125 women; Ludwig score: Gr. I/II/III: 57/46/22	32.21 years; disease duration 2.65 years	DLQI	9.62 ± 5.92
					VAS	57.78 ± 18.06
Han, 2012, <sup>40</sup> Korea	Mar. 2009 – Apr. 2009	Cross-sectional survey	998 men; BSAP classification: mild (M1, M2, C1, V1, F1)/ severe (M3, C2-3, U1-3, V2-3, F2-3): 600/398	41.7 years; Mean duration: 6.23 years	HSS-29	Function: 24.0 ± 20.1; Symptom: 26.3 ± 19.5; Emotions: 32.1 ± 21.8; Global: 27.3 ± 19.1
Reid, 2012, <sup>33</sup> USA	Mar. 2009 – Nov. 2009	Cross-sectional survey	41 women;	No mean age and mean duration record	Skindex-16	Function: 56.74 ± 31.38; Symptoms: 14.93 ± 18.18; Emotions: 84.64 ± 14.66; Global: 58.50 ± 16.9
Yayli, 2012, <sup>27</sup> Turkey	Not reported	Case-control study	46 (M/F 22/24)	28.2 years; no duration record	BAI	13.30 ± 13.05
					BDI	11.35 ± 11.86
					HSS-29	Function: 8.31 ± 13.05 Symptoms: 11.72 ± 14.61 Emotions: 15.93 ± 17.41
Yamazaki, 2011, <sup>51</sup> Japan	Aug. 2007 – Dec. 2009	Cross-sectional survey	27 men	33.8 years; no duration record	VAS	21.4 ± 13.7
					DLQI	Total: 5.74 ± 6.14
					WHO/QOL-26	Average: 3.36 ± 0.46
					STAI	Trait Anxiety: 45.5 ± 11.2

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Sawant, 2010, <sup>37</sup> India	Not reported	Cross-sectional survey	37 men; all between Hamilton-Norwood IIa to VII	No mean age (age 15-25 /26-50 years: 23/14 patients), no duration record	Lifestyle indices	Eating habits: 13.69 ± 3.95 / 11.92 ± 3.43; Physical: 4.91 ± 1.70 / 4.64 ± 2.30; Occupational 10.43 ± 3.51 / 9.57 ± 4.05; Leisure: 4.78 ± 2.71 / 4.28 ± 2.89; Psychological and addictions: 2.0 ± 3.13 / 1.7 ± 3.8
					Hairdex	Emotions: 25.26 ± 13.14 / 20.92 ± 16.21; Functioning: 9.6 ± 10.91 / 11.85 ± 7.55; Symptoms: 6.91 ± 4.89 / 9.28 ± 6.71; Self-assurance: 10.52 ± 5.05 / 14.28 ± 7.32; Stigmatization: 13.17 ± 9.55 / 13.9 ± 12.2
					SCL-90	Somatization: 3.17 ± 5.11 / 3.57 ± 4.23; Obsessive-compulsive: 7.39 ± 7.14 / 9.21 ± 10.94; Interpersonal sensitivity: 4.174 ± 6.08 / 4.21 ± 3.18; Depression: 4.913 ± 8.37 / 5.57 ± 9.37; Anxiety: 1.43 ± 2.39 / 1.9 ± 7.21; Anger and hostility: 2.913 ± 4.814 / 2.78 ± 4.42; Phobic anxiety: 0.39 ± 1.07 / 0.92 ± 2.55; Paranoid ideation: 2.13 ± 4.49 / 1.92 ± 3.24; Psychoticism: 0.565 ± 1.12 / 0.92 ± 3.47
					SLES	Familial: 0.434 ± 0.727 / 0.928 ± 1.207; Involving finances and achievements: 1.260 ± 1.657 / 1.357 ± 1.737; Personal stressors: 0.478 ± 0.845 / 0.714 ± 1.139; Social stressors: 0.173 ± 0.491 / 0.142 ± 0.363; Total: 2.347 ± 2.963 / 3.142 ± 3.416

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Biondo, 2010, <sup>54</sup> Australia	Not reported	Cross-sectional survey	130 women; No severity record	45.14 years; no duration record	WAA-QOL	2.96 ± 0.14
Hu, 2009, <sup>23</sup> China	Jun. 2005 – Jun. 2007	Cross-sectional survey	320 (M/F 250/70); Norwood-Hamilton: I/I+/II-/II+/III-/III/III+/IV-IV/IV+/V/VI/VII 19/36/19/34/16/28/42/10/11/28/25/28/12/12	30 years; disease duration 4.48 years	DLQI	Total Score: 9.19 ± 5.66
					CES-D	15.06 ± 8.40
Hirsso, 2005, <sup>52</sup> Finland	1996 - 1998	Cohort study	105 women in aged 63 years	63 years; no duration record	RAND-36	Physical functioning: 71.2 ± 20.7; Energy/fatigue: 69.0 ± 19.3; Emotional well-being: 78.9 ± 15.5; Social functioning: 85.7 ± 19.3; Pain: 68.6 ± 24.7; General health: 55.9 ± 17.3
					BDI	22% ≥ 10
Schmidt, 2001, <sup>53</sup> Germany	Not reported	Cross-sectional survey	20 Women; Ludwig scale I/II/III: 3/12/5	no mean age and duration record	Hairdex	(Ludwig scale I/II/III) Emotions: 33.19/37.49/41.11; Functions: 19.22/24.98/26.33; Symptoms: 21.89/20.92/29.71; Self-confidence: 35.89/29.83/31.44 Stigmatization: 20.08/21.48/26.89

Author, year, country	Study period	Study type	Patient characteristics	Mean age, disease duration	HRQOL or Psychological instrument	Mean HRQOL score or Psychiatric result
Maffei, 1994, <sup>31</sup> Italy	Jan. 1992 – Jun. 1992	Cross-sectional survey	116 (M/F 64/52)	30.9 years; no duration record	SCL-90	Somatization: 3.24 ± 3.48 / 6.56 ± 6.79; Obsessive-compulsive: 5.16 ± 4.87 / 8.27 ± 6.79; Interpersonal sensitivity: 3.59 ± 3.44 / 5.82 ± 6.04; Depression: 4.95 ± 5.41 / 11.71 ± 9.45; Anxiety: 4.18 ± 3.82 / 7.52 ± 6.15; Anger and hostility: 2.77 ± 2.89 / 3.85 ± 3.88; Phobic anxiety: 0.68 ± 1.22 / 1.40 ± 2.22; Paranoid ideation: 2.44 ± 2.29 / 3.88 ± 4.24; Psychoticism: 1.64 ± 3.15 / 3.46 ± 3.91
Cash, 1993, <sup>34</sup> USA	Not reported	Case-control study	156 (M/F 60/96), Norwood-Hamilton: II or IIa/III, IIIa, or IIIv/IV to VII 30/20/10 Ludwig: I/II/III 51/40/5	34.56 years; no duration record	MBSRQ	Hair satisfaction: 2.27 ± 0.88 / 1.85 ± 0.97; Appearance evaluation: 3.80 ± 0.63 / 3.15 ± 0.67
					TSBI	Self-esteem: 58.8 ± 9.1 / 54.5 ± 11.6
					SCS-R	Social anxiety: 8.47 ± 4.27 / 10.08 ± 4.64; Public self-consciousness: 15.58 ± 4.44 / 15.56 ± 4.26
					LOC	Internality: 38.0 ± 5.0 / 36.1 ± 5.0; Chance: 21.8 ± 6.3 / 22.7 ± 5.8; Powerful others: 23.4 ± 7.0 / 21.8 ± 6.7
					IES	Stress intrusion: 7.65 ± 4.7 / 10.55 ± 5.75; Stress avoidance: 8.75 ± 5.42 / 10.82 ± 5.14
Cash, 1992, <sup>35</sup> USA	Not reported	Case-control study	103; Norwood-Hamilton: high-/Low extent of hair loss 40/63	No mean age and duration record	HLEQ	Negative socioemotional events: 59/31; Positive socioemotional events: 8/6; Cognitive preoccupation 69/54; Behavior coping: 69/48 (% subjects who increased group mean comparisons)

AC= Avoidant coping; AEC= Active emotional coping; ASEX= Arizona Sexual Experience Scale; BAI= Beck Anxiety Inventory; BDI= Beck Depression Inventory; BFQ= Big Five Inventory; BIPQ= Brief Illness Perception Questionnaire; CES-D= Center for Epidemiologic Studies Depression Scale; COPE= Coping Orientation to Problems Experienced inventory; DDF= Difficulty describing feelings; DIF= Difficulty identifying feelings; DLQI= Dermatology Life Quality Index; EOT= Externally oriented thinking; EQ-i= Emotional Quotient Inventory; F=female; FSFI= Female Sexual Function Index; GHQ-12= 12-Item General Health Questionnaire; HAM-A= Hamilton Anxiety Rating Scale; HLEQ= Hair Loss Effects Questionnaire; HSS-29=Hair-Specific Skindex-29; IES= The 15-item Impact of Event Scale; LOC= Levenson 24-item Locus of Control Scale; M=male; MBSRQ= Multidimensional Body-Self Relations Questionnaire; MCS= Mental component summary; mWAA-QOL= Modified Women's Androgenetic Alopecia-Quality of Life ; PCS= Physical component summary; PFC= Problem-focused coping; RAND-36= RAND 36-Item Health Survey; RSES= Rosenberg Self-Esteem Scale; SAS= Self-rating Anxiety Scale; SCL-90-R= Symptom Checklist-90-Revised; SCS-R= Self-consciousness scale; SDS= Self-rating Depression Scale ; SF-12=12-item Short-Form Health Survey; SIAS= Social interaction anxiety scale; SLES= Stressful Life Event Scale; SPI= Social Phobia Inventory; SPS= Self-perception scale; STAI= State-Trait Anxiety Inventory; TAS-20= Toronto Alexithymia Scale; TEI-Que-SF= Trait Emotional Intelligence Questionnaire-Short Form; TQL= Dermatology Quality of Life instrument in Turkish; TSBI= Texas Social Behavior Inventory; VAS= Visual Analogue Scale; WAA-QOL= Women's Androgenetic Alopecia-Quality of Life; WHO/QOL-26= WHO Quality of Life-BREF.

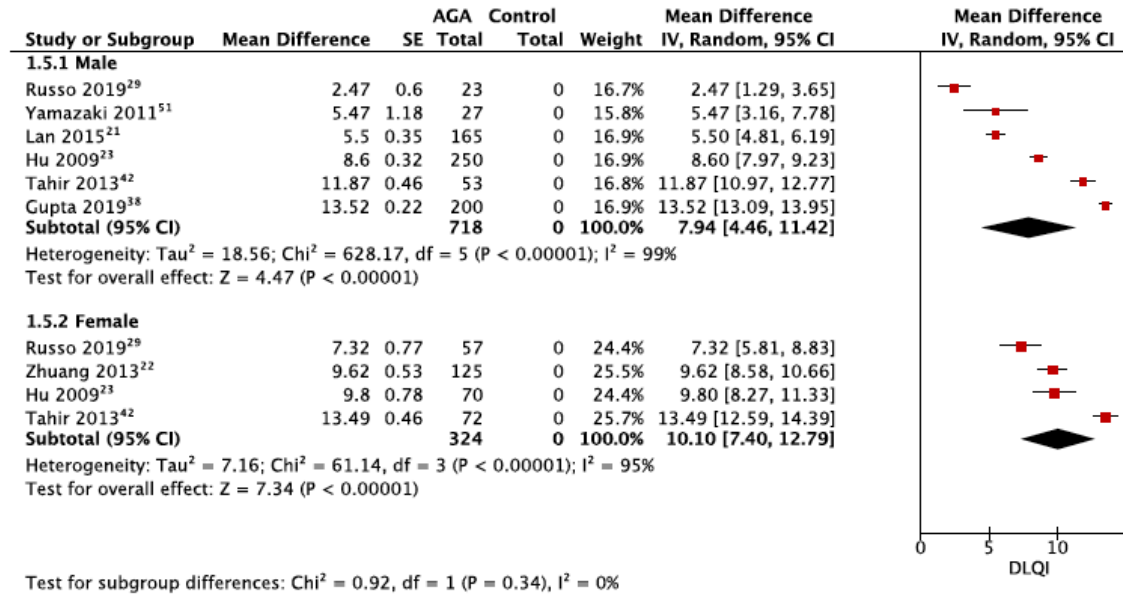


**eTable 3.** Factors Associated With Health-Related Quality of Life in Androgenetic Alopecia

Factor associated with HRQOL	Number of studies	n	Inverse	No	Direct
<b>Social-demographic</b>					
Female gender <sup>23-25,29,30,34,39,42</sup>	8	1,847	5	3	0
Younger age <sup>20-22,24,26,35,36,40,42,55</sup>	10	2,425	4	5	1
Married or Couple <sup>21,23,35,36,42</sup>	5	813	0	0	5
Higher level of education <sup>17,23,42</sup>	3	800	3	0	0
<b>Clinical</b>					
Younger age of onset <sup>20,21,23,35,37,39</sup>	6	1,217	4	2	0
Longer disease duration <sup>20,22,24,36,39,40,42,55</sup>	8	2,422	3	4	1
Higher disease severity <sup>20-22,24,25,30,33,36,37,39-42,46,53,55</sup>	16	4,432	9*	5	3*
Higher patient-rated hair loss severity or Lower VAS score <sup>21,22,33</sup>	3	331	3	0	0
Family history of AGA <sup>21,23,55</sup>	3	885	1	2	0
Combined with metabolic syndrome <sup>26</sup>	1	115	1	0	0
<b>Treatment-related</b>					
Wearing head scarves <sup>24</sup>	1	82	0	1	0
Hair transplant <sup>16</sup>	1	875	0	0	1
Receive topical or oral medical treatment <sup>22,43-46,51,55</sup>	7	1,667	0	0	7
Higher hospital visits for AGA treatment <sup>40</sup>	1	998	1	0	0
History of non-medical hair care <sup>40</sup>	1	998	1	0	0
Good response to medicine <sup>22,51</sup>	2	152	0	2	0
<b>Psychological</b>					
Maladaptive patient <sup>53</sup>	1	20	1	0	0
Regard their MPB as minimally noticeable <sup>35</sup>	1	103	0	0	1

\* In the study of Tas et al. (2018), higher disease severity has negative impact on women's HRQOL but positive impact on men's HRQOL.

**eFigure 1.** Dermatology Life Quality Index Score in Androgenetic Alopecia Patients of Different Sexes



**eFigure 2.** Dermatology Life Quality Index Score in Androgenetic Alopecia Patients in Asia and Europe

