

Table S1a. Search Strategy for Prevalence of HH– PubMed and Cochrane database (The search was run on 3rd of June 2026 and limited to articles published between 2005-2026)

CoCoInc (Condition, Context, Inclusion)	Search items	Results
Condition (Co)	1 Hyperhidrosis	3600
	2 Hyper perspiration	34
	3 Excess sweating	1245
	4 1 or 2 or 3	4487
Context (Co)	5 Epidemiology	2687969
	6 Prevalence	3251599
	7 5 or 6	3252218
Result (Co+Co)	(4) and (7) Observational studies, retrospective studies, Interview studies, investigating PH	558
Excluded	Systematic analysis, interventions, case reports, Frey's syndrome, and lack of method description.	540
Final inclusion (Inc)		18

Table SIb. The Prevalence of HH and PH

Author and year	Country	Study design	Sample (n)	age range (years)	HH Prevalence (%)	PH prevalence (%)
Henning et al. 2025 (4)	Denmark	Questionnaire survey	1083	18-70	NA	5.7
Hagenström et al. 2024 (5)	Germany	Retrospective observational	2513860	≥18	0.7	NA
Fujimoto et al. 2023 (6)	Japan	Questionnaire survey	60969	15-69	NA	10
Abusailik et al. 2021 (7)	Jordan	Questionnaire Survey	4500	<45	NA	3.2
Ribiero SM et al. 2019 (8)	Brazil	Questionnaire Survey	2700	<30	NA	20.56
Wadhawa et al. 2019 (9)	India	Questionnaire Survey	832	<18 - >35	17.9	NA
Hasimoto et al. 2018 (10)	Brazil	Questionnaire survey	4133	≥ 5	2.07	0.93
Doolittle et al. 2016 (11)	USA	Questionnaire survey	8160	18-65+	4.8	NA
Shayesteh et al. 2016 (12)	Sweden	Questionnaire survey	5000	15-60	20.3	5.5
Liu et al. 2016 (13)	China & Canada	Prospective cohort	1010	15-89	18.5 16.7	14.5 12.3
Lima et al. 2015 (14)	Brazil	Individual interviews	447	NA	NA	14.76
Augustin et al. 2013 (15)	Germany	Questionnaire survey	14336	18–65	16.3	NA
Fujimoto et al. 2013(16)	Japan	Retrospective cohort	5807	5-64	13.95	12.76
Stefaniak et al. 2013 (17)	Polen	Comparative (questionnaire + gravimetry)	253	< 30	NA	16.7
Westphal et al. 2011 (18)	Brazil	Questionnaire survey	293	16-46	NA	5.5
Felini et al. 2009 (19)	Brazil	Questionnaire survey	500	>18	9	NA
Li et al. 2007 (20)	China	Questionnaire survey	33000	< 30	NA	4.36
Tu et al. 2007 (21)	China	Questionnaire survey	13000	< 25	NA	4.59

Abbreviations: HH, Hyperhidrosis; PH, Primary hyperhidrosis; NA, not available

Table SIIa. Search strategy for quality of life in PH– PubMed and Cochrane database (The search was run on 3rd of June 2026 and limited to articles published between 2005-2026)

CoOInc (Condition, Outcome, Inclusion)	Search items		Results
Condition (Co)	1	Primary hyperhidrosis	964
	2	Hyper perspiration	34
	3	Excess sweating	1245
	4	1 or 2 or 3	2029
Outcome (O)	5	Quality of life	632376
Result (Co+O)	(4) and (5)		409
Included (Inc)	Clinical trials, Interview studies, Observational studies, validation studies, retrospective studies, PH and QoL instruments used.		148
Excluded	No abstract or method description, no QoL instrument described in abstract, only validating QoL scale, psychological comorbidities but not QoL		105
	Review articles		14
	Sample < 10 participants		1
Additional Inclusion	Relevant studies after screening reference lists		29
Total included			55

Table SIIb. Quality of life in in PH

Author, year	Study type	QoL tools	Results	n
Abusailik et al., 2023 (7)	Cross-sectional	HDSS, DLQI	HDSS 2.9p and DLQI 12.8p for AH, PPH, PIH, CFH, GH and TH	4500
Ribeiro S.M et al., 2019, (8)	Cross-sectional	HDSS	Aprox 1/4 in PH having HDSS 3-4 p with AH as the most common subtype.	185
Shayesteh et al., 2016 (12)	Cross-sectional	HDSS, VAS, SF-36	Significant lower QoL (SF-36 MCS and PCS) in PH compared to the general population. Approx. 1/4 in PH with severe HDSS.	5000
Fujimoto et al., 2013 (16)	Cross-sectional	HDSS, VAS	Moderate to severe PH in 46.8%.VAS scores were higher in younger individuals. No significant difference in sex.	5807
Kjeldstrup et al., 2020 (37)	Retrospective	Skindex-16, DLQI	PH Skindex-16 emotional domain scores similar to psoriasis and higher than eczema. Highest scores for PH in functional domain compared to psoriasis, eczema and acne. DLQI data NA	95
Trettin et al., 2022 (38)	Qualitative	Interviews	PH affected physical abilities, one's self-concept and, living a life in secrecy to protect the social identity in adolescents	10
Shayesteh et al. 2021 (39)	Qualitative	Interviews	PH disrupts the feminine appearance, lowers self-esteem and hinders social interactions.	15
Shayesteh et al., 2019 (40)	Qualitative	Interviews	PH causes stigma and stress, making men feeling filthy and having difficulties to manage the disease	15
Kamudoni et al., 2017 (41)	Qualitative	FG, Interview, Questionnaire	PH has extensive and negative impacts on physical, mental, social, professional and economic and healthcare needs in daily life.	71
Shayesteh et al., 2016 (42)	Pre-post study	HDSS, VAS, SF-36	Significant improvements in baseline HDSS, VAS, SF-36 QoL signs of anxiety and depression after btx-A injections in AH and PPH. No signs of risky nor dependent alcohol use in PH.	114

Muthusamy et al., 2016 (43)	Cross-sectional	DLQI	DLQI (17-21 years) 7.15-7.96p. PH had moderate to large effect on daily life among 67.3% of students.	500
Glaser et al. 2015 (44)	Pre-post study	HDSS, CDLQI, CHHIQ	Significant improvements in baseline HDSS 3.5p, CDLQI NA and CHHIQ after btx-A injections in children 12-17 years with AH.	141
Rieger et al., 2015 (45)	Pre-post study	HDSS, SF-36, HQLQ, Keller	Significant improvements in baseline HDSS 2-4p, SF-35 MCS 46.4p and PCS 53.7p, HQLQ 3.04p and Keller's questionnaire after endoscopic lumbar sympathectomy in PIH.	52
Kouris et al., 2015 (46)	Pre-post study	HDSS, CDLQI, UCLA	Significant improvement in baseline HDSS 3-4p and DLQI 14.65p and social isolation score in adolescents (14 years) after btx-a injections in AH and PPH.	35
Wu et al., 2023 (47)	Pre-post study	HDSS, DLQI	Significant reduction of baseline HDSS 3-4p and DLQI NA, after ETS in PPH	158
Zhang et al., 2022 (48)	Pre-post study	HQLQ	Significant reduction of baseline HQLQ 40p after ETS in PPH	367
Alkosha et al., 2022 (49)	Pre-post study	HQLQ	Significant reduction of HDSS 1-4p and HQLQ 80.1-79.6p after ETS in PPH	194
Dogru et al., 2020 (50)	Pre-post study	HQLQ	HQLQ data NA after ETS in PPH	165
Wolosker et al., 2020 (51)	Pre-post study	HQLQ	Significant improvement of baseline HQLQ being poor-very poor, in adolescents and adults with AH and PPH after ETS	2431
Hajjar et al., 2019 (52)	Pre-post study	HQLQ	Significant improvement in baseline HQLQ being poor-very poor QoL, after ETS in PPH.	100
Elalfy et al., 2017 (53)	Pre-post study	VAS, Keller	Significant improvement in baseline VAS 9p and Kellers QoL questionnaire 120.5 p after extended thoracic sympathectomy in AH and PIH.	42
Kuijpers et al., 2013 (54)	Pre-post study	HDSS	Significant improvement in baseline HDSS 3.69p after ETS in AH and/or PPH	100
Mostafa et al. 2019 (55)	Pre-post study	HDSS, DLQI	Significant improvement in baseline HDSS 3p and DLQI 13-14.5p after either btx-A injections or percutaneous	80

			radiofrequency sympathectomy in PPH	
Elshabory et al., 2025 (56)	Pre-post study	HDSS, DLQI	Significant reduction of baseline HDSS 4p and DLQI 20-21p after fractional laser assisted btx-A injections in PPH and AH	40
Elsayed et. al., 2024 (57)	Pre-post study	HDSS, DLQI	Significant reduction of baseline HDSS 3-4p, DLQI 16-17p after CO-2 laser assisted btx-A vs aluminium chloride in PPH	24
Prodan-Barbulescu et al., 2024 (58)	Pre-post study	HDSS, WHOQOL-BREF, DLQI	Significant reduction of baseline HDSS 3.6p, BREF 66.7-70.8p and DLQI 24.8p after btx-A injections in FH	77
Nofal et al., 2022 (59)	Pre-post study, review	HDSS, DLQI	Significant reduction of baseline HDSS 3.17-3.08 and DLQI 9.83 after btx-A vs topical 2% glycopyrrolate in FH	24
Ando et al., 2022 (60)	Pre-post study	HDSS, DLQI	Significant reduction of baseline HDSS 3.17 p and DLQI 9.2 p after btx-A injections in CFH	15
Campanati et al. 2020 (61)	Pre-post study	HDSS, DLQI	Significant improvement of baseline HDSS 3.7-3.9p and DLQI 38.6-37.9p after btx-A injections and oxybutynin treatment in PPH	70
Mirkovic et al., 2018 (62)	Pre-post study	DLQI	Significant improvement in baseline DLQI 11p children (16-17 years) and DLQI 12p children (<16 years) after btx-A and btx-B injections in PH.	366
Jog et al., 2016 (63)	Pre-post study	SF-12	Btx-A treatment impacted the largest improvement in health utility scores for AH and hemifacial spasm; social functioning and role participation, compared to cerebral palsy, focal spasticity, blepharospasm and cervical dystonia.	1062
Kouris et al., 2014 (64)	Pre-post study	HDSS, DLQI	Significant improvement in baseline HDSS 3-4p and DLQI 20p after btx-a injections in AH, PPH and PIH.	119
Solish et al. 2005 (65)	Pre-post study	HDSS, DLQI, HHIQ	Significant improvements to baseline HDSS 3-4p, DLQI NA and HHIQ NA after btx-a injections in AH.	146

Bauman et al., 2005 (66)	Pre-post study	A-HQOL	Significant improvement to A-HQOL after btx-b injections in AH	23
Pissa et al. 2024 (67)	Pre-post study	HDSS, DLQI, HidroQoL	Significant reduction of baseline HDSS 3-4p, DLQI 12p and HidroQoL 26p after Miradry in AH	103
Smith et al., 2024 (68)	Pre-post study	HDSS, PROM QoL	Significant reduction of HDSS 3-4p, Life-7 and PROM after alkali thermolysis in AH	120
Kaufman et al., 2022 (69)	Pre-post study	HDSS, unspecified QoL	Significant reduction of baseline HDSS 3-4p and QoL questionnaire after alkali thermolysis in AH	16
Zhang et al., 2022 (70)	Pre-post study	HDSS, DLQI	Significant reduction of baseline HDSS 2-4p and DLQI 14 after MiraDry in AH	
Rummaneeethorn et al., 2020 (71)	Pre-post study	HDSS, DLQI	A significant improvement of HDSS 3.1p and DLQI NA comparing btx-A injections and microneedle radiofrequency in AH	
Cohen et al., 2019 (72)	Pre-post study	HDSS, DLQI, OS	Significant improvement of baseline DLQI 11.4p, HDSS 2-4p and OS mild-moderate symptoms after miradry in AH	20
Schick et al., 2016 (73)	Pre-post study	HDSS, DLQI	Significant improvements in baseline HDSS 3-4p and DLQI 16p after radiofrequency thermotherapy in AH	30
Abtahi-Naeini et al., 2015 (74)	Pre-post study	DLQI	Significant improvement in DLQI 12.96p after microneedle radiofrequency in AH	25
Hong et al., 2012 (75)	Pre-post study	HDSS, DLQI	Significant improvement in baseline HDSS 3-4p and DLQI NA after miradry in AH.	31
Saki et al., 2023 (76)	Pre-post study	HDSS, VAS, DLQI	Significant reduction of baseline HDSS 3p, VAS 8.26-8.78p and DLQI 11.66-13.28p after Oxybutynin gel versus nanoemulgel in PPH	15
Szeimies., 2023 (77)	Pre-post study	HidroQoL, DLQI	Significant reduction of baseline HDSS NA and HidroQoL 27p after 1% glycopyrronium bromide cream in AH	518
Abels et al., 2021 (78)	Pre-post study	HDSS, HidroQoL	Significant reduction of baseline HDSS 3-4p and HidroQoL 30-29p after glycopyrronium bromide 1% in AH	171

Herbert et al. 2020 (79)	Pre-post study in children	HDSS CDLQI	Significant improvement of HDSS 3-4p and CDLQI 8.9p in children ≥ 9 years with after topical glycopyrronium tosylate in AH	43
Wolosker et al., 2020 (80)	Pre-post study	HDSS, HQLQ	Significant improvement in baseline HQLQ, showing poor-very poor QoL but not for HDSS 2-4p with oxybutynin in AH, PPH, PIH, and FH.	1658
Almeida et al., 2020 (81)	Pre-post study	HDSS	Significant improvement in baseline HDSS 3.87p with oxybutynin in AH, PIH, PPH, CFH and TH.	30
Glaser et al. 2019 (82)	Pre-post study	HDSS, DLQI, CDLQI	Significant improvement in baseline HDSS 3-4p, DLQI 11.4p and CDLQI 8.9p in children ≥ 9 years after topical glycopyrronium tosylate in AH	651
Herbert et al. 2019 (83)	Pre-post study	HDSS, CDLQI, DLQI	Significant improvement in baseline HDSS 3-4 p, DLQI 10.6-11.9p (> 16 years) and CDLQI 8.5-9.9p (≥ 9 to ≤ 16 years) after topical glycopyrronium tosylate in AH	697
Pariser et al. 2019 (84)	Pre-post study	HDSS, ASDD, DLQI	Significant improvement from baseline HDSS3-4p, ASDD domains, DLQI > 16 years and CDLQI ≤ 16 years after topical glycopyrronium tosylate in AH	463
Artzi et al. 2017 (85)	Pre-post study	HDSS, DLQI	Significant improvement in baseline HDSS NA and DLQI 14.9p (PPH 13.7p, PIH 16.4p, AH 15.1p) after topical oxybutynin 10% gel in AH, PPH and PIH.	61
Şener et al., 2019 (86)	Pre-post study	HDSS	Significant improvement in baseline HDSS 3.7p after iontophoresis in AH	60
Henning et al., 2022 (87)	Retrospective	SF-12	MCS: 51.26-52.64p and PCS: 54.96- 55.82p for PH (subgroups unspecified)	2794
Shayesteh et al., 2017 (88)	Retrospective	HDSS, SF-36	MCS lowest scores for AH, PHH and pIH. HDSS severe in AH and PH and moderate to mild in FH and PIH. Only 5% seeked help.	188

Abbreviations: n, sample size; NA, not available; PH, primary hyperhidrosis; AH, axillary hyperhidrosis; PPH, primary palmar hyperhidrosis; PIH, plantar hyperhidrosis; CFH, craniofacial hyperhidrosis; FH, facial hyperhidrosis; GH, genital hyperhidrosis; TH, truncal hyperhidrosis; ETS, endoscopic thoracic sympathectomy; HDSS, Hyperhidrosis Disease Severity Scale; btx-A, botulinum toxin A; PROM, Patient Reported Outcomes;

QoL, Quality of Life; WHOQOL-BREF, World Health Organization Quality of Life Short Version; VAS, Visual Analogue Scale; DLQI, Dermatology Life Quality Index, HidroQoL, Hyperhidrosis Quality of Life Questionnaire; SF-12, Short Form Health Survey-12; HQLQ, Hyperhidrosis Quality of Life Questionnaire; Skindex-16, Skin Index short form-16; CDLQI, Children's Dermatology Life Quality Index; OS, Odor Scale; ASDD, Axillary Sweating Daily Diary; UCLA, UCLA Loneliness Scale; HHIQ, Hyperhidrosis Impact Questionnaire; SF-36, Short Form Health Survey-36; FG, Focus groups; CHHIQ, Children's Hyperhidrosis Impact Questionnaire; A-HQOL, Axillary Hyperhidrosis Quality of Life.

Table SIIIa. Search strategy for treatment with aluminum salts in PH– PubMed and Cochrane database (The search was run on 3rd of June 2026 and limited to articles published between 2005-2026)

CoECo (Condition, Exposure, Outcome)	Search items		Results
Condition (Co)	1	Hyperhidrosis	3600
	2	Hyper Perspiration	34
	3	Excess sweating	1245
Exposure (E)	4	Aluminum	65615
Context (Co)	3	Clinical trials	1187838
Result	(1or 2 or 3) and (2) and (3)		16
Excluded	No abstract, non-clinical trials, minimum follow-up > 2 months		13
Final inclusion			3

Table SIIIb. Search strategy for treatment with anticholinergics in PH– PubMed and Cochrane database (The search was run on 3rd of June 2026 and limited to articles published between 2005-2026)

PEO (population, exposure, outcome)	Search items		Results
Condition (Co)	1	Hyperhidrosis	3600
	2	Hyper Perspiration	34
	3	Excess sweating	1245
Exposure (E)	4	Glycopyrronium	1443
	5	Sofpironium	22
	6	Oxybutynin	1175
	7	Umeclidinium	465
Context (Co)	8	Clinical trials	1187838
Result	(1) and (2 or 3 or 4 or 5) and (6)		57
Excluded	No abstract, systemic treatment, reviews, non-clinical trials, minimum, follow-up > 2 months		51
Total included			6

Table SIIIc. Topical aluminium and anticholinergic treatments for PH. Efficacy, safety and risk of bias

Treatment	Age	Sites	Efficacy	Outcome measures	Adverse events	Risk of bias (RoB2)
Al salts: (20% AC; 25% ACH; 20% AS) (97-99)	≥18	Axilla, Palms, Soles, Scalp	Flanagan 2008: 33% HDSS responders at wk. 4 (20% AC); ElKholi 2025: ACH 25% improved HDSS, BTX-A superior (ACH % NR); Thianboonsong 2020: 20% AC ≈ 20% AS; both improved HDSS	HDSS, SVIS, gravimetry	Skin irritation	Some concerns
Anticholine rgics: GT, GPB, SB, Oxy (77, 82, 84, 100- 102)	≥ 9 GT& SB, ≥18 GPB, ≥12 Oxy	Axilla, Palms, Scalp	Significant reductions in sweating & severity with QoL gains: GT HDSS responders 63.2%; sweat -71.3% from DB baseline; DLQI improved. GPB 1% (72 w) median sweat -65.6% at 12 w with sustained QoL benefit. SB (52 w,) ~57-58% achieved HDSS 1- 2 and ≥ 50% gravimetric reduction. OL - 50% sweat for 52.8% at 4 w.	HDSS, gravimetry , ASDD/PG IC, DLQI/ HidroQoL	Dry mouth, blurred vision, mydriasis and local site reactions (erythema/ pain/prurit us); low discontinu ation with GT over 44 w (8%). OL ADRs 36%, mostly mild	Low to some concerns (RCTs: low; OLE/obs ervationa l: some- high concerns)

Abbreviations: Al, aluminium; AC, aluminium chloride; ACH, aluminium chloride hexahydrate; AS, aluminum sesquichlorohydrate; HDSS, Hyperhidrosis Disease Severity Scale; wk, week; BTX-A, botulinum toxin type A; NR, not reported; SVIS, sweating intensity visual scale; GT, glycopyrronium tosylate; GPB, glycopyrronium bromide; SB, sofpironium bromide; Oxy, oxybutynin; QoL, quality of life; DLQI, dermatology life quality index; DB, double blind; OL, open label; ASDD, axillary sweating daily diary; PGIC, patient global impression of change; ADRs, adverse drug reactions; RoB, cochrane risk of bias.

RoB (“low” if all key domains were at low risk; “moderate” if one or more domains had some concerns likely to influence results; and “high” if serious flaws in one or more domains were judged to bias findings)