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Conflicts of interest

None disclosed.

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Investigation of the applicability of adult definitions of disease severity for psoriasis in a pediatric cohort: A prospective registry study

In pediatric patients with psoriasis, there are no definitions or considerations to assist the decision to initiate systemic therapy. In adults, the Rule of Tens (R10) identifies severe psoriasis as having at least one of the following: body surface area (BSA) >10%, Psoriasis Area and Severity Index (PASI) >10, or Dermatology Life Quality Index (DLQI) >10.[1] The International Psoriasis Council consensus statement (IPCcs) categorizes patients with psoriasis as candidates for either topical or systemic therapy. The latter are patients who meet at least one of the following criteria: BSA >10%, disease involving special areas (face, palms, soles, intertriginous skin, scalp, or nails), or failure of topical therapy.[2] Psoriasis extent is important in both definitions, but while R10 uses DLQI to assess health-related quality of life (HRQoL), IPCcs focuses on high-impact site involvement as a factor that impacts HRQoL. This study aimed to determine the percentage of pediatric patients with psoriasis fulfilling R10 and IPCcs definitions and to investigate the influence of high-impact site involvement and other clinical characteristics (age, sex, psoriasis duration, therapy, extent of psoriasis) on the Children's DLQI (CDLQI).

Data of all patients <18 years with psoriasis enrolled in the prospective daily practice Child-CAPTURE registry[3] were used to assess percentages, and logistic regression was used to study the influence of clinical characteristics on CDLQI. Full Supplementary Methods, available via Mendeley at https://data.mendeley.com/datasets/5bghs44nnb/1.

Of 641 pediatric patients, 49.0% fulfilled R10 and 92.4% IPCcs definition, despite only 16.9% having PASI >10 and 29.8% having BSA >10% (Table I). The high percentage for IPCcs reflected high-impact site involvement (90.6%), especially scalp involvement (84.1%), in the overall cohort. This high percentage of scalp involvement was not found in an adult cohort on which IPCcs definition was applied (45.9% scalp involvement).[4] Raising the threshold for scalp psoriasis from any involvement (>0%) to 5%, 10%, 20%, and 50% of the scalp affected still resulted in high percentages of patients meeting IPCcs definition (Supplementary Tables I and II,

Table I. Clinical characteristics of all patients, patients meeting the Rule of Tens (R10) definition, and patients meeting the International Psoriasis Council consensus statement (IPCcs) definition

	All patients	Patients with severe psoriasis according to R10	Candidates for systemic therapy according to IPCcs
Total patients	641	314	592
Sex, *n* (%)			
Male	257 (40.1)	124 (39.5)	238 (40.2)
Female	384 (59.9)	190 (60.5)	354 (59.8)
Age, y, median [IQR]	11.0 [7.0]	11.0 [6.0]	11.0 [7.0]
Age distribution, *n* (%)			
0-6 y	112 (17.5)	52 (16.6)	104 (17.6)
7-12 y	293 (45.7)	132 (42.0)	266 (44.9)
13-17 y	236 (36.8)	130 (41.4)	222 (37.5)
Family history of psoriasis*,†, *n* (%)	207 (52.9)	99 (51.3)	185 (51.5)
PsA, *n* (%)	5 (0.8)	2 (0.6)	5 (0.8)
Psoriasis duration, y, median [IQR]	1.4 [3.4]	1.5 [3.6]	1.3 [3.4]
Psoriasis severity, median [IQR]			
PASI (0-72)†	5.7 [4.8]	8.0 [6.3]‡	5.9 [4.7]‡
PGA (0-5)†	3.0 [1.0]	3.0 [1.0]	3.0 [1.0]
BSA (0-100%)†	6.0 [8.4]	11.5 [12.9]‡	6.5 [9.5]‡
CDLQI (0-30)†, median [IQR]	8.0 [7.0]	12.0 [6.0]‡	8.0 [7.0]‡
Numbers and percentage of patients fulfilling the criteria according to R10, *n* (%)			
PASI >10	108 (16.9)	108 (34.5)	108 (18.3)
BSA >10%	191 (29.8)	191 (61.0)	191 (32.3)
CDLQI >10	199 (31.5)	199 (65.5)	192 (33.0)
Numbers and percentage of patients fulfilling the criteria according to IPCcs, *n* (%)			
Failure of topical therapy	121 (18.9)	92 (29.3)	121 (20.4)
Involvement of high-impact sites	581 (90.6)	298 (94.9)	581 (98.1)
Face	169 (26.4)	101 (32.2)	169 (28.5)
Intertriginous skin§	236 (36.8)	157 (50.0)	236 (39.9)
Palms and soles	10 (1.6)	10 (3.2)	10 (1.7)
Nails	101 (15.8)	61 (19.4)	101 (17.1)
Scalp‖	539 (84.1)	275 (87.6)	539 (91.0)
BSA >10%	191 (29.8)	191 (61.0)	191 (32.3)

BSA, Body surface area; *CDLQI*, Children's Dermatology Life Quality Index; *PASI*, Psoriasis Area and Severity Index; *PGA*, Physician Global Assessment; *PsA*, psoriatic arthritis.

*Psoriasis in parents or siblings.

†In case of missing data, scores were calculated over available data. Variables with missing data include family history of psoriasis ($n = 10$), PASI ($n = 1$), PGA ($n = 2$), BSA ($n = 1$), CDLQI ($n = 10$), and percentage of psoriasis involvement on the scalp ($n = 6$).

‡Both Mann-Whitney U-test and the median test showed a statistically significant higher PASI, BSA, and CDLQI in the R10 compared to the IPCcs group ($P < .001$).

§Intertriginous skin refers to the body folds, including axillary, anogenital, and inframammary skin.

‖The assessment of scalp psoriasis involvement was based on any degree of affected scalp (>0%).

available via Mendeley at https://data.mendeley.com/datasets/5bghs44nnb/1).

Impaired HRQoL (CDLQI >10) was associated with high-impact site involvement (odds ratio [OR]: 1.9, 95% CI: 1.2-3.0), BSA >10% (OR: 1.8, 95% CI: 1.2-2.7) and teenage (13-17 years) (OR: 1.8, 95% CI: 1.0-3.1) (Table II). Sensitivity analysis substituting PASI >10 for BSA >10% showed similar results (Supplementary Table III, available via Mendeley at https://data.mendeley.com/datasets/5bghs44nnb/1).

Since this is a single-center study, it might lack generalizability. However, patients are referred from various general practitioner and dermatologist offices across the country, offering a diverse patient population that mirrors a typical pediatric psoriasis population within a hospital setting.

Table II. Influence of clinical characteristics on CDLQI with BSA as a severity measure: univariable and multivariable logistic regression model[*,†,‡]

Variables	Univariable analysis[§] OR (95% CI)	*P* value	Multivariable analysis[‖] OR (95% CI)	*P* value
Age 7-12 y vs 0-6 y (ref)	0.894 (0.638-1.253)	.517	1.445 (0.854-2.447)	.170
Age 13-17 y vs 0-6 y (ref)	1.506 (1.068-2.125)	.020	**1.767 (1.012-3.082)**	**.045**
Sex (female)	1.372 (0.968-1.944)	.076	1.372 (0.956-1.968)	.086
Psoriasis duration (per y)	1.020 (0.961-1.082)	.523		
Type of therapy (systemic)	2.294 (1.525-3.451)	<.001	1.482 (0.934-2.352)	.095
BSA (>10%)	2.148 (1.497-3.081)	<.001	**1.806 (1.223-2.666)**	**.003**
Involvement of high-impact sites (yes)[¶,#]	2.218 (1.391-3.535)	<.001	**1.864 (1.151-3.018)**	**.011**

BSA, Body surface area; *CDLQI*, Children's Dermatology Life Quality Index; *OR*, odds ratio; *PASI*, Psoriasis Area and Severity Index.
*The dependent variable was CDLQI with a cut-off value at 10.
†BSA was used as severity measure because it is present in both the Rule of Tens and IPCcs. A sensitivity analysis using PASI is shown in Supplementary Table III, available via Mendeley at https://data.mendeley.com/datasets/5bghs44nnb/1.
‡In case of missing data, scores were calculated over available data. Variables with missing data include BSA ($n = 1$) and CDLQI (10). A total of 630 cases were included in the analyses.
§Variables with a $P < .20$ in the univariable analysis were analyzed in the multivariable logistic regression model.
‖In the multivariable logistic regression model, variables with a $P < .05$ were considered statistically significant and are displayed in bold.
¶High-impact sites: face, palms and soles, intertriginous skin, scalp, and nails.
#In this analysis, patients were classified as having scalp psoriasis if >10% of the scalp was affected.

This study showed that R10 (49.0%) qualifies fewer pediatric patients as candidates for systemic treatment than IPCcs (92.4%), given that almost all pediatric patients have high-impact site involvement. It also demonstrated a clear association between high-impact site involvement in pediatric patients and impaired HRQoL, which was shown before in adult patients with psoriasis.[5]

In addition, CDLQI >10 was found to be associated with the extent of psoriasis and teenage years. Data from this study highlight the need to establish a new definition for systemic therapy initiation in pediatric patients with psoriasis, in which the (newly) identified associations between clinical characteristics and impaired HRQoL should be taken into account.

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Patient consent: According to Dutch law, informed consent was not mandatory for this noninterventional study; however, it was obtained from every newly included patient.

IRB approval status: The study has been reviewed by the ethics committee on the basis of the Dutch Code of Conduct for Health Research, the Dutch Code of Conduct for Responsible Use, the Dutch Personal Data Protection Act, and the Medical Treatment Agreement Act and does not fall within the remit of the Medical Research Involving Human Subjects Act (WMO). File number CMO: 2012/383.

Key words: child; criteria; disease severity; psoriasis; psoriasis drug therapy; registries; systemic therapy initiation; treatment outcome.

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Conflicts of interest

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Skin cancer screening of firefighters and nonfirefighters: A study of the American Academy of Dermatology SPOTme screening program

A recent systematic review of case-control studies demonstrated an elevated melanoma risk among firefighters compared to the general population.[1] There is increasing evidence that this risk may be correlated to occupational exposures.[2-5] To better understand which firefighters participate in real-world pragmatic skin cancer detection examinations, we compared the demographics of firefighters participating in the American Academy of Dermatology (AAD) SPOTme skin cancer screening program to the general SPOTme screening population.

Deidentified SPOTme screening records from 2018 to 2019 were obtained from the AAD. The records were organized into 2 cohorts: firefighter-targeted screenings conducted in Boston, Massachusetts (C.K.) and general AAD SPOTme screenings conducted nationally. To prevent overlap between cohorts, records from Massachusetts were excluded from the national screening cohort. Descriptive statistics were utilized to explore cohort characteristics.

Records were available for 114,373 general participants and 1066 firefighters (Supplementary Table I, available via Mendeley at https://doi.org/10.17632/gfbmx73hn2.1). Demographics of firefighters differed from general participants: firefighters were younger (79% vs 38% under 51 years old) and had more male (95% vs 36%) and Black participants (15% vs 3%) (Table I). Self-reported risk factors also varied: firefighters reported higher yearly sun exposure (39% vs 21% exposed 11+ hours) but were less likely to report a history of skin cancer, blistering sunburns, or indoor tanning (19% vs 36%). Among