Organization of Care in AD

Current Status of AD in Africa

G Todd
with apologies

ISAD Global 2019

Atopic dermatitis in sub-Saharan Africa

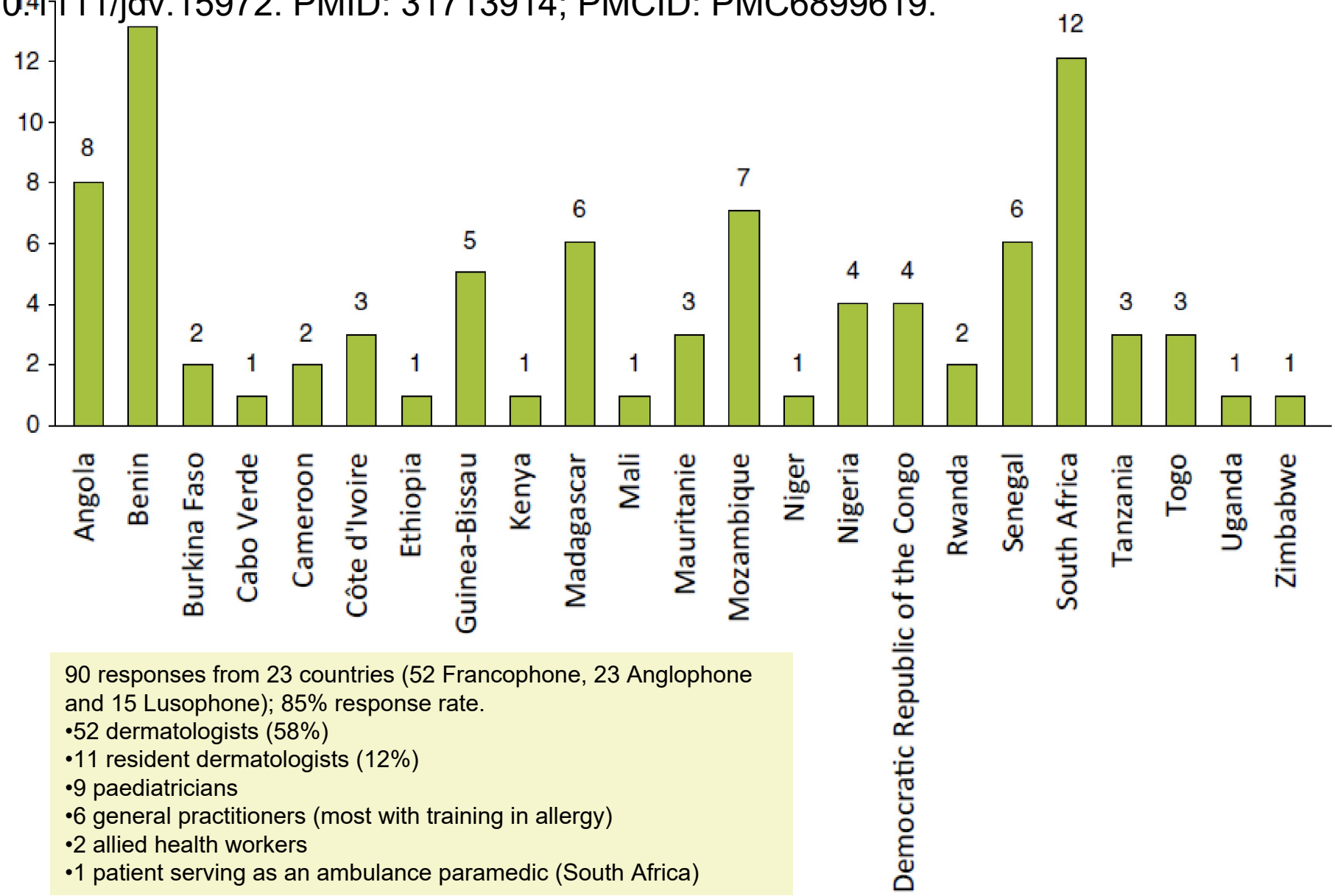
In order to advance the involvement of the ISAD in Africa, a meeting was organized in Geneva to identify research and intervention priorities in Africa and initiate African-led projects for AD (research and care) with the help of international health organizations as the main objectives.

Schmid-Grendelmeier P, Takaoka R, Ahogo KC, Belachew WA, Brown SJ, Correia JC, Correia M, Degboe B, Dorizy-Vuong V, Faye O, Fuller LC, Grando K, Hsu C, Kayitenkore K, Lunjani N, Ly F, Mahamadou G, Manuel RCF, Kebe Dia M, Masenga EJ, Muteba Baseke C, Ouedraogo AN, Rapelanoro Rabenja F, Su J, Teclessou JN, Todd G, Taïeb A.

Position Statement on Atopic Dermatitis in Sub-Saharan Africa: current status and roadmap.

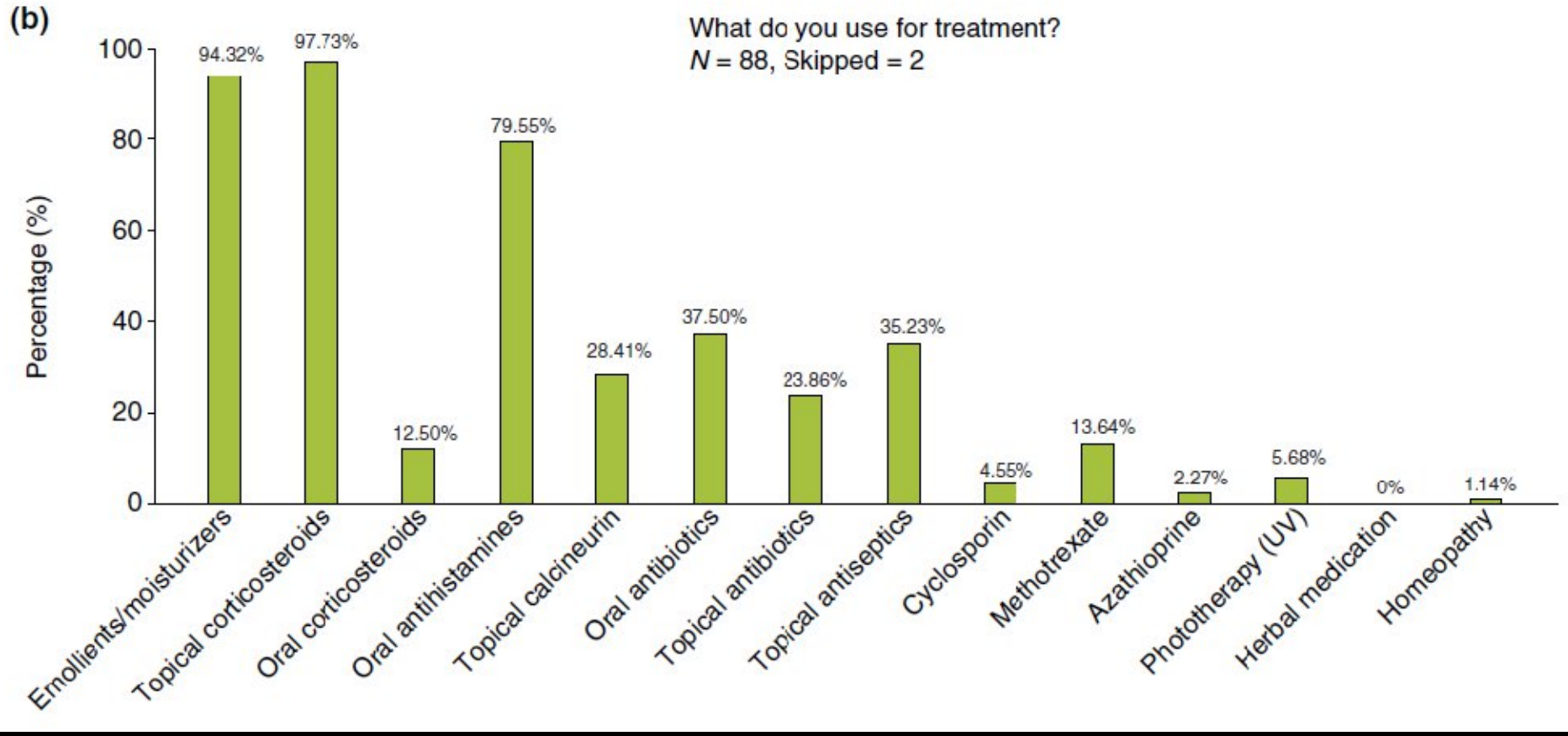
J Eur Acad Dermatol Venereol. 2019 Nov;33(11):2019-2028. doi: 10.1111/jdv.15972. PMID: 31713914; PMCID: PMC6899619.

and roadmap. J Eur Acad Dermatol Venereol. 2019 Nov;33(11):2019-2028. doi: 10.1111/jdv.15972. PMID: 31713914; PMCID: PMC6899619.



90 responses from 23 countries (52 Francophone, 23 Anglophone and 15 Lusophone); 85% response rate.

- 52 dermatologists (58%)
- 11 resident dermatologists (12%)
- 9 paediatricians
- 6 general practitioners (most with training in allergy)
- 2 allied health workers
- 1 patient serving as an ambulance paramedic (South Africa)



- The majority (69.7%) were seeing 1–10 AD patients/week in a regional/central centre.
- Most were using emollients/moisturizers and topical corticosteroids.
- Systemic therapies, oral antihistamines, oral antibiotics (secondary infections), systemic corticosteroids and methotrexate.
- Dermatology or allergy societies guidelines (South Africa, foreign countries) were used by roughly half of the practitioners

Problems related to AD that were considered common or very common in Africa

- lack of medication
- limited access to medical care
- lack of proper training of healthcare professionals
- lack of information about AD amongst the local population
- lack of information about AD amongst primary care workers

Lack of education materials and educational programs for patients with AD in most African countries.

Recommendations

Make specific pan African surveys

- Comparing recommended diagnostic and outcome criteria and tool relevance to Africa
- AD prevalence
- Patient desires/needs
- Education programmes for skin disease especially for primary care workers
- Emollients

Atopic eczema clinical features in Africa

A systematic review and meta-analysis of the regional and age-related differences in atopic dermatitis clinical characteristics

Yew YW, Thyssen JP, Silverberg JI

J AM ACAD DERMATOL 2019, 80(2):391-401

101 studies, 28 countries, 7 Africa and Australia
Considerable heterogeneity of atopic dermatitis
78 different signs and symptoms identified
Notable differences by study region and age group.

The most prevalent AD features were pruritus, lichenification, and xerosis

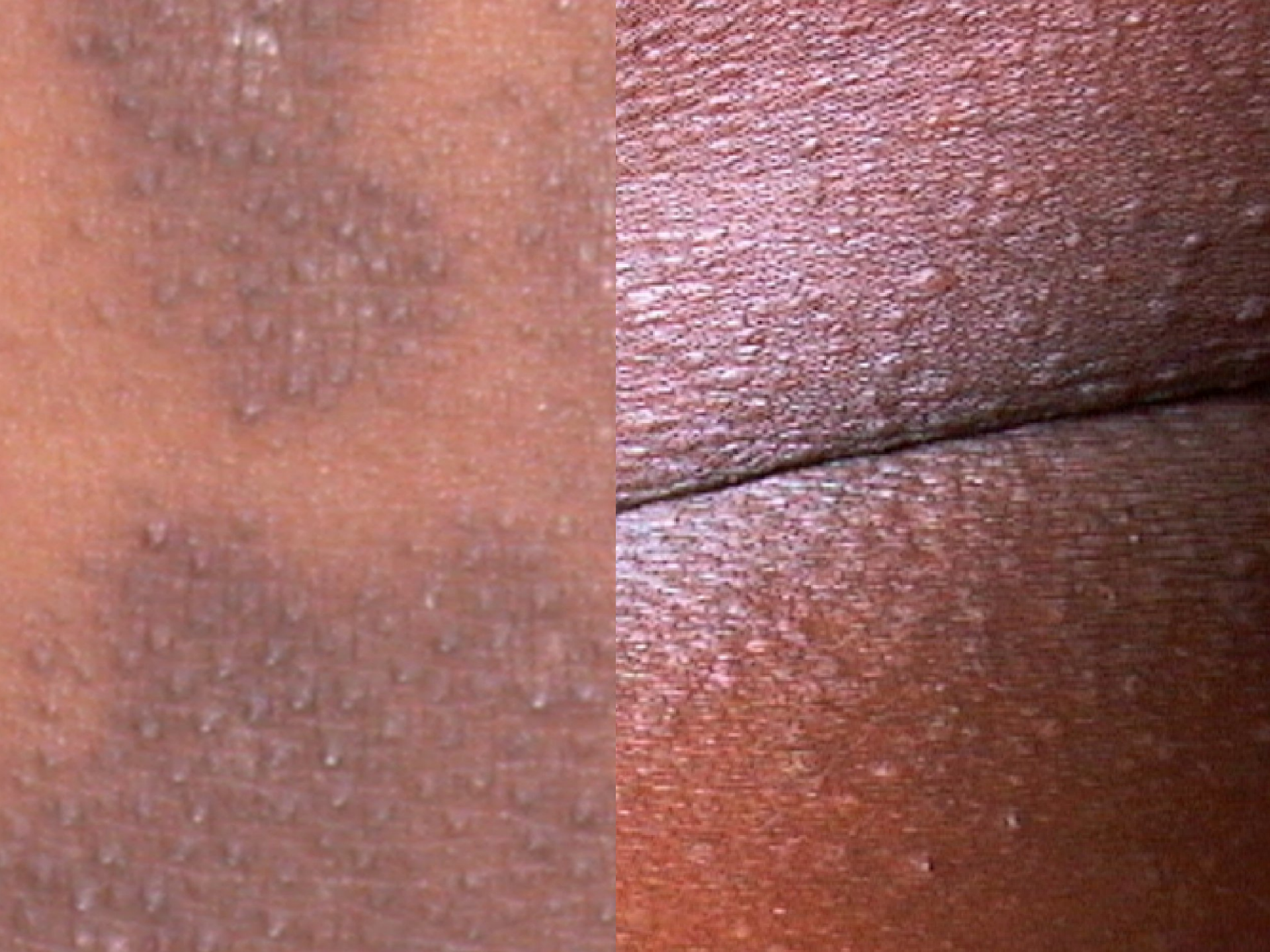
A systematic review and meta-analysis of the regional and age-related differences in atopic dermatitis clinical characteristics

Yew YW, Thyssen JP, Silverberg JI.

J Am Acad Dermatol 2019;80:390-401

Studies from Africa reported more papular lichenoid lesions, palmar hyperlinearity, ichthyosis, and orbital darkening

Rank	Clinical Features	Overall (%)	Region							Age group		
			East Asia (n=29)	India (n=4)	SEA (n=4)	Africa (n=4)	America (n=8)	Australia (n=2)	Iran (n=2)	Europe (n=48)	Children (n=38)	Adults (n=36)	Unspecified (n=27)
1	Pruritus	94%	98%	.	100%	77%	100%	94%	70%	96%	92%	95%	89%
2	Cold extremities	73%	.	73%	.	.	.	.	.	.	73%	.	.
3	Xerosis	73%	72%	81%	62%	65%	82%	81%	64%	76%	73%	72%	75%
4	Lichenification	56%	.	46%	100%	.	20%	.	.	75%	48%	100%	57%
5	Course influenced by emotions/environmental	60%	74%	26%	50%	.	88%	.	.	59%	32%	72%	73%
6	Flexural involvement	58%	63%	59%	64%	65%	54%	82%	10%	58%	58%	62%	48%
7	Early onset disease	57%	42%	80%	83%	9%	.	.	5%	60%	57%	62%	42%
8	Immediate skin test reactivity	56%	12%	.	85%	.	94%	.	.	54%	52%	59%	.
9	Itch worse when sweating	55%	65%	51%	75%	39%	68%	.	2%	53%	49%	65%	43%
10	Perleche	54%	.	.	.	.	.	.	.	57%	.	57%	41%
11	Personal/Family hx of atopy	53%	56%	74%	66%	4%	50%	76%	24%	54%	50%	60%	49%
12	Raised Total Ig E	52%	54%	.	41%	.	.	.	.	53%	57%	51%	46%
13	Extensor involvement (Upper limbs)	51%	53%	.	76%	.	.	.	46%	19%	52%	51%	.
14	Exudative eczema	50%	32%	.	100%	.	.	.	.	43%	61%	42%	.
15	Course influenced by environment	48%	71%	35%	75%	20%	46%	.	7%	44%	37%	62%	61%
16	Upper limb involvement	47%	51%	.	34%	57%	62%	9%	.	49%	56%	38%	60%
17	Intolerance to wool and lipid solvents	45%	41%	42%	24%	11%	.	.	6%	56%	45%	47%	37%
18	Dennie-Morgan infraorbital fold	42%	18%	78%	22%	49%	27%	.	33%	50%	47%	38%	40%
19	Head, face, neck involvement	42%	49%	37%	16%	61%	56%	46%	72%	35%	38%	39%	60%
20	Low Hair Line	42%	.	66%	.	.	.	.	14%	.	42%	.	.
21	Auricular rhagades	41%	34%	.	.	.	.	.	.	43%	42%	39%	41%
22	Cradle cap (scaling and crusting of the scalp during	40%	43%	.	.	.	.	39%	.	39%	41%	39%	.
23	Lower limb involvement	40%	47%	.	39%	51%	57%	9%	.	38%	48%	32%	48%
24	Peeling skin at proximal nailfold	39%	.	39%	.	.	.	.	.	.	39%	.	.
25	Trunk involvement	39%	60%	.	56%	.	34%	.	6%	27%	40%	40%	26%
26	Ichthyosis/palmar hyperlinearity/keratosis pilaris	38%	34%	.	.	.	50%	.	.	37%	25%	44%	.
27	Infra-auricular fissuring	38%	54%	10%	10%	8%	.	.	.	40%	34%	56%	27%
28	Trunk and Limbs	38%	38%	.	.	.	.	.	.	.	38%	.	.
29	Non-specific hand or foot dermatitis	36%	29%	18%	37%	20%	43%	16%	.	42%	25%	44%	35%
30	Palmar hyperlinearity	36%	32%	40%	49%	52%	.	.	32%	37%	35%	39%	33%
31	Orbital darkening	35%	32%	32%	52%	54%	.	.	8%	37%	32%	38%	37%
32	White dermographism/delayed blanch	35%	28%	43%	10%	7%	4%	.	8%	50%	34%	34%	38%
33	Perifollicular accentuation	34%	43%	35%	27%	.	5%	.	5%	28%	37%	21%	54%
34	Scalp eczema	34%	40%	42%	16%	.	52%	.	9%	15%	33%	29%	50%
35	Allergic shiner	32%	32%	.	.	.	.	.	.	.	.	32%	.
36	Anterior neck folds/involvement	32%	29%	23%	50%	.	51%	.	.	32%	34%	35%	21%
37	Blepharal involvement	31%	37%	.	29%	.	44%	22%	.	25%	40%	28%	32%
38	Course influenced by emotions	30%	.	18%	2%	.	72%	.	.	32%	15%	70%	.
39	Food intolerance	29%	21%	7%	29%	.	24%	.	15%	38%	28%	28%	42%
40	Cheilitis	28%	30%	11%	8%	4%	28%	7%	3%	42%	23%	31%	28%
41	Auricular involvement	27%	32%	.	24%	.	31%	23%	.	12%	28%	25%	30%
42	Keratosis pilaris	27%	21%	33%	9%	17%	.	.	18%	36%	25%	28%	28%
43	Urticaria	27%	23%	.	.	.	.	.	.	33%	20%	32%	.
44	Cutaneous infections	26%	20%	36%	12%	.	26%	.	.	32%	25%	21%	56%
45	Ventral wrist dermatitis	26%	26%	.	13%	13%	58%	.	.	24%	34%	15%	32%
46	Extensor involvement (lower limbs)	25%	34%	.	.	.	.	.	.	15%	24%	25%	.
47	Insect bite reaction	25%	.	42%	.	.	.	.	.	9%	42%	.	9%
48	Seborrheic dermatitis like	25%	39%	.	19%	.	.	.	.	24%	40%	18%	2%
49	Pityriasis alba	23%	20%	44%	21%	13%	8%	.	46%	23%	28%	18%	21%
50	Recurrent conjunctivitis	23%	16%	9%	15%	.	66%	.	.	25%	22%	21%	50%
51	Forehead lichenification	22%	30%	.	.	11%	.	.	.	19%	24%	17%	22%
52	Papular lichenoid lesions	22%	12%	.	.	54%	.	.	1%	46%	8%	46%	32%
53	Photophobia	22%	8%	.	.	.	.	.	.	27%	.	26%	11%
54	Infra-auricular/nasal fissuring	21%	21%	.	.	.	.	.	.	.	21%	.	.
55	Ichthyosis	19%	22%	8%	15%	21%	.	.	.	9%	16%	18%	23%
56	Infragluteal dermatitis	18%	18%	.	.	.	.	.	.	.	18%	17%	21%
57	Sign of Hertoghe	15%	15%	.	1%	.	.	.	6%	24%	2%	25%	19%
58	Dyshidrosis / pompholyox	14%	13%	.	3%	.	4%	.	.	24%	3%	21%	10%
59	Knuckle dermatitis of hands	14%	10%	.	.	4%	.	.	.	31%	8%	25%	6%
60	Diaper rash	13%	5%	.	.	.	.	13%	.	17%	13%	13%	.
61	Keratolysis exfoliativa	13%	13%	.	.	.	.	.	.	.	13%	13%	13%
62	Nummular plaques	13%	16%	.	21%	.	6%	.	6%	11%	10%	18%	8%
63	Acrocyanosis	12%	.	.	.	.	.	.	31%	12%	.	12%	.
64	Dirty neck	11%	11%	.	14%	.	.	.	.	10%	10%	11%	13%
65	Erythroderma	11%	41%	.	.	.	.	34%	3%	1%	1%	29%	.
66	Nail involvement (pitting, shiny, hangnail, leuconych	11%	7%	.	.	20%	16%	.	6%	23%	8%	15%	12%
67	Nipple eczema	11%	11%	5%	11%	8%	11%	.	.	14%	8%	15%	9%
68	Fine hair	9%	.	9%	.	.	.	.	.	.	9%	.	.
69	Fissured heels	8%	11%	.	.	5%	.	.	.	.	8%	12%	7%
70	Palmar erythema	8%	7%	.	.	9%	.	.	.	.	.	6%	8%
71	Genitalia involvement	7%	9%	.	5%	.	.	6%	2%	7%	7%	7%	8%
72	Prurigo nodules	7%	8%	.	27%	.	.	.	4%	4%	4%	18%	2%
73	Anterior subcapsular cataracts	5%	2%	.	.	.	8%	.	.	6%	0%	6%	12%
74	Geographical tongue	3%	2%	.	6%	.	.	.	.	.	5%	2%	2%
75	Pitted keratolysis	3%	4%	.	.	2%	.	.	.	.	6%	4%	3%
76	Infra-nasal fissuring	1%	1%	.	.	.	.	.	.	.	1%	.	.
77	Keratoconus	1%	3%	.	.	.	0%	.	.	0%	4%	1%	1%
78	Lichen amyloidosis	1%	1%	.	.	.	.	.	.	.	.	1%	.



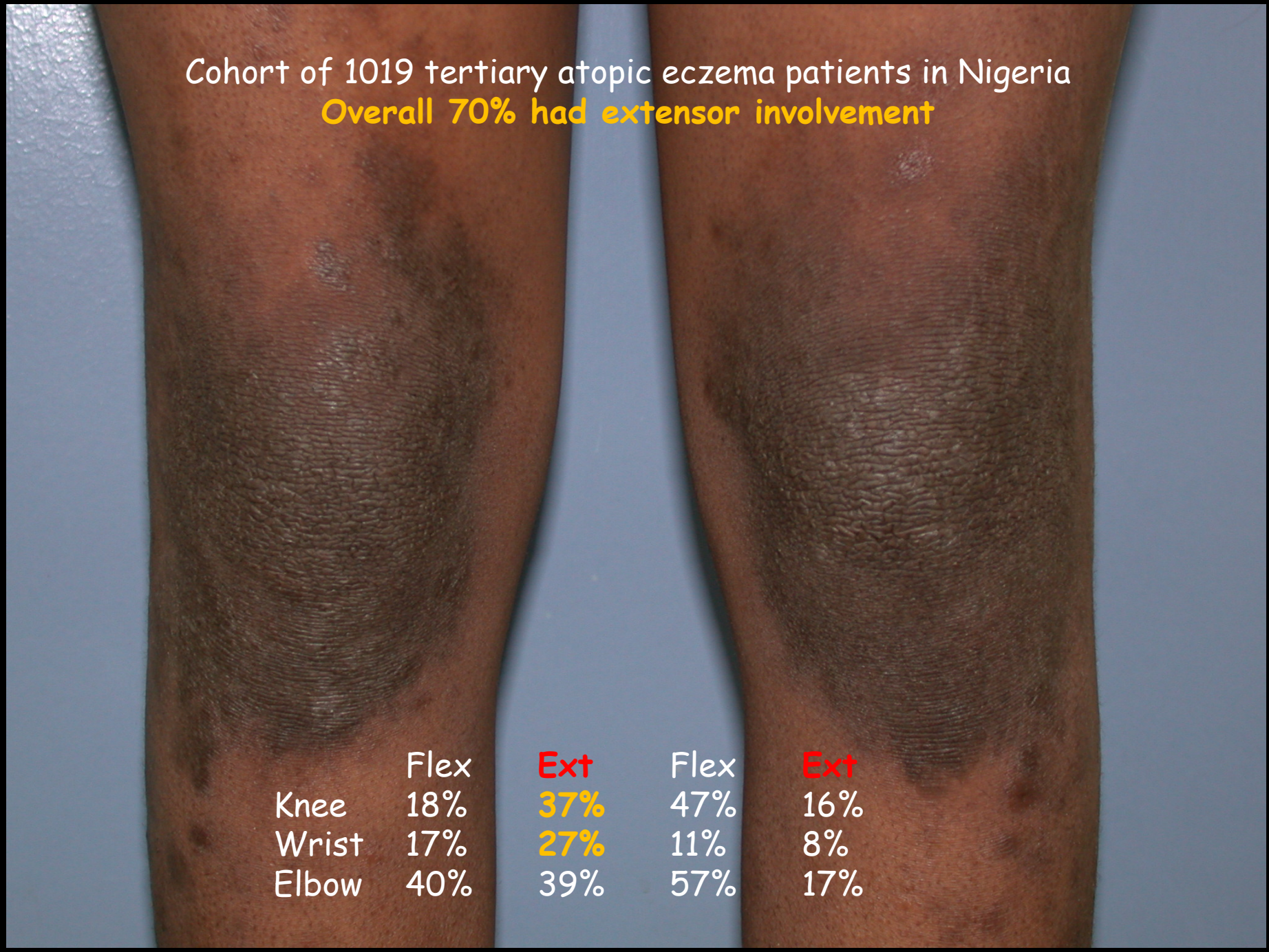
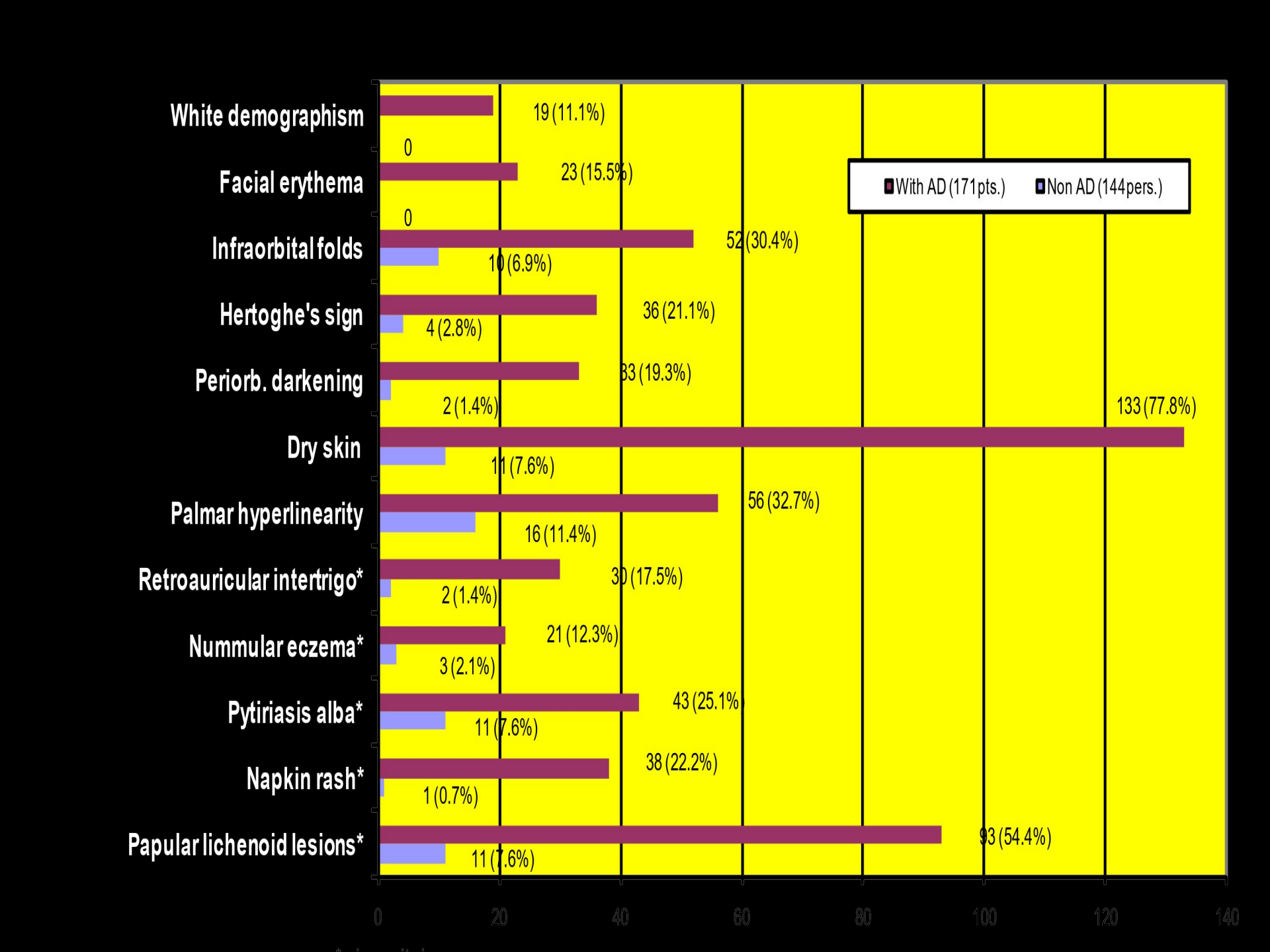

Cohort of 1019 tertiary atopic eczema patients in Nigeria
Overall 70% had extensor involvement
Flex Ext Flex Ext
Knee 18% 37% 47% 16%
Wrist 17% 27% 11% 8%
Elbow 40% 39% 57% 17%

Table 5 Frequency of associated minor criteria observed in AD patients compared to controls

Skin condition (minor features)	AD patients (n = 1012)	Controls (n = 726)
Xerosis	719 (71%)	31 (4.3%)
Periorbital darkening	550 (54.3%)	0
Papular lichenoid lesions	547 (54.1%)	15 (2.1%)
Palmar hyperlinearity	524 (51.8%)	6 (0.8%)
Infraorbital folds	498 (49.2%)	9 (1.3%)
Itch on sweating	398 (39.3%)	12 (1.7%)
Ichthyosis	217 (21.4%)	0
Hand and foot eczema	204 (20.1%)	0
Shiny nails	204 (20.0%)	0
Keratitis pilaris	171 (16.7%)	0
Pytiriasis alba	134 (13.1%)	0
Forehead lichenification	109 (10.7%)	0
Palmar erythema	87 (8.5%)	0
Retro/infra-auricular intertrigo	86 (8.4%)	0
Nipple eczema	76 (7.5%)	0
White dermographism	75 (7.4%)	0
Fissured heels	53 (5.2%)	5 (0.7%)
Nail pitting	44 (4.3%)	0
Cheilitis	41 (4.0%)	0
Knuckle dermatitis	39 (3.8%)	0
Pitted keratolysis	19 (1.7%)	0

Cross-sectional survey in one village (Miembeni) in the Kilimanjaro region, Tanzania. The general population was 6953. There were 3427 children aged 0-15 years


White demographism
19 (11.1%)
0
Facial erythema
23 (15.5%)
0
Infraorbital folds
52 (30.4%)
10 (6.9%)
Hertoghe's sign
36 (21.1%)
4 (2.8%)
Periorb. darkening
33 (19.3%)
2 (1.4%)
Dry skin
133 (77.8%)
11 (7.6%)
Palmar hyperlinearity
56 (32.7%)
16 (11.4%)
Retroauricular intertrigo*
30 (17.5%)
2 (1.4%)
Nummular eczema*
21 (12.3%)
3 (2.1%)
Pytiriasis alba*
43 (25.1%)
11 (7.6%)
Napkin rash*
38 (22.2%)
1 (0.7%)
Papular lichenoid lesions*
93 (54.4%)
11 (7.6%)
With AD (171pts.)
Non AD (144pers.)
0
20
40
60
80
100
120
140

Atopic eczema diagnostic criteria and scoring tools relevance in Africa

Validation of ISAAC and UK criteria for atopic eczema in Ethiopian children

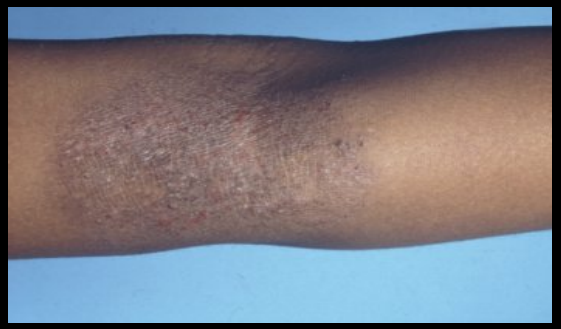
Cross sectional screening survey, children 1-5 years, Ethiopia
7915 interviewed, 506/590 cases, 438 controls

Prevalence 4.4% (ISAAC) 1.8% (UK criteria)

Validity of the ISAAC criteria

PPV 33% (95% CI 28.0-38.6)

NPV 91% (95% CI 88.4-93.8)



Validity of the UK criteria

PPV 56% (95% CI 10.4-28.9)

NPV 91% (95% CI 99.0-99.6)

Visible flexural eczema alone

PPV 57% (95% CI 48.2-65.9)

NPV 91% (95% CI 88.0-93.5)

EPIDEMIOLOGY AND HEALTH SERVICES RESEARCH DOI 10.1111/j.1365-2133.2006.07606.x

Validation of the U.K. Working Party diagnostic criteria for atopic eczema in a Xhosa-speaking African population

D.A. Chalmers, G. Todd, N. Saxe, J.T. Milne, S. Tolosana, P.N. Ngcelwane, B.N. Hlaba, L.N. Mngomeni, T.G. Nonxuba and H.C. Williams*

Department of Dermatology, Faculty of Health Sciences, University of Cape Town, South Africa
**Centre of Evidence-Based Dermatology, Queen's Medical Centre, University of Nottingham, Nottingham, U.K.*

Brit J Dermatol 2007

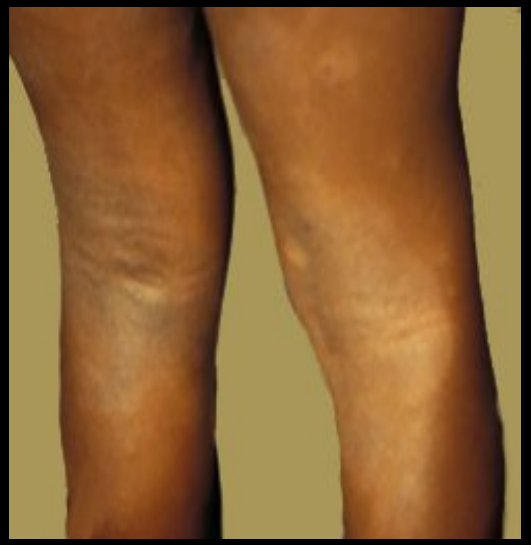
Prevalence 1.0% (dermatologist) 1.8% (VFE), 2.5% (UK)

Full UK criteria

Sensitivity 43.7% (95% CI 26.3-62.3)
Specificity 97.9% (97.3-98.4)
PPV 18.4% (95% CI 10.4-28.9)
NPV 99.4% (95% CI 99.0-99.6)

Visible flexural eczema alone

Sensitivity 81.2% (95% CI 63.5-92.7)
Specificity 99.0% (95% CI 98.6-99.3)
PPV 48.1% (95% CI 34.3-62.1)
NPV 99.8% (95% CI 99.5-99.9)

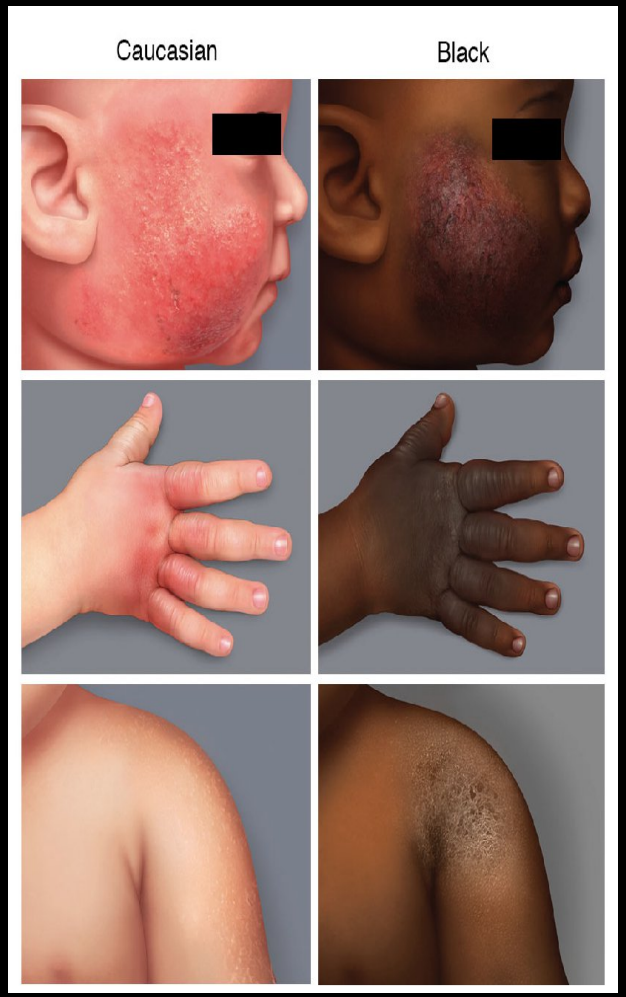


Validation of the Patient-Oriented SCORing for Atopic Dermatitis tool for black skin

JEADV 2019 DOI: 10.1111/jdv.15999

O. Faye,[1] A.P. Meledie N'Djong,[2] S. Diadie,[3] S. Coniquet,[4] P.A. Niamba,[5] F. Ataadkpede,[6] P. Yao Yoboue,[7] M. Thierno Dieng,[3] A. Zkik,[8] C. Castagne,[8] F. Zumaglini,[9] A. Delarue[9,*]

Benin, Burkina Faso, Cameroon, Ivory Coast, Gabon, Mali, Senegal



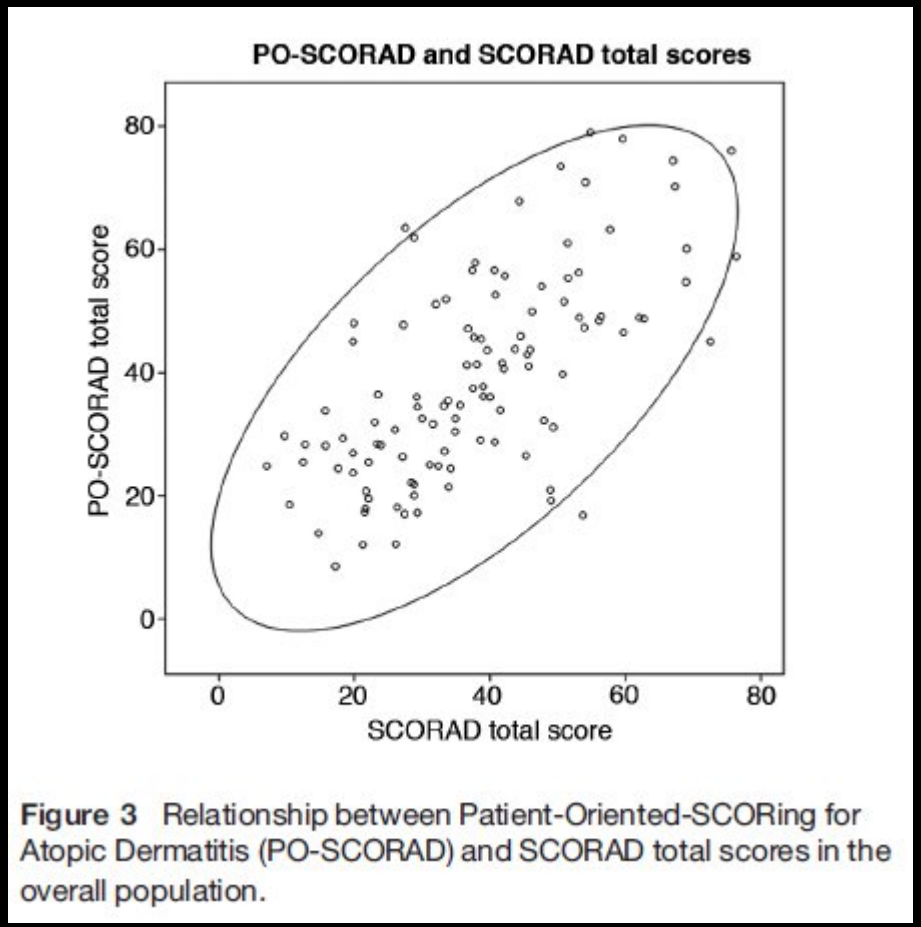
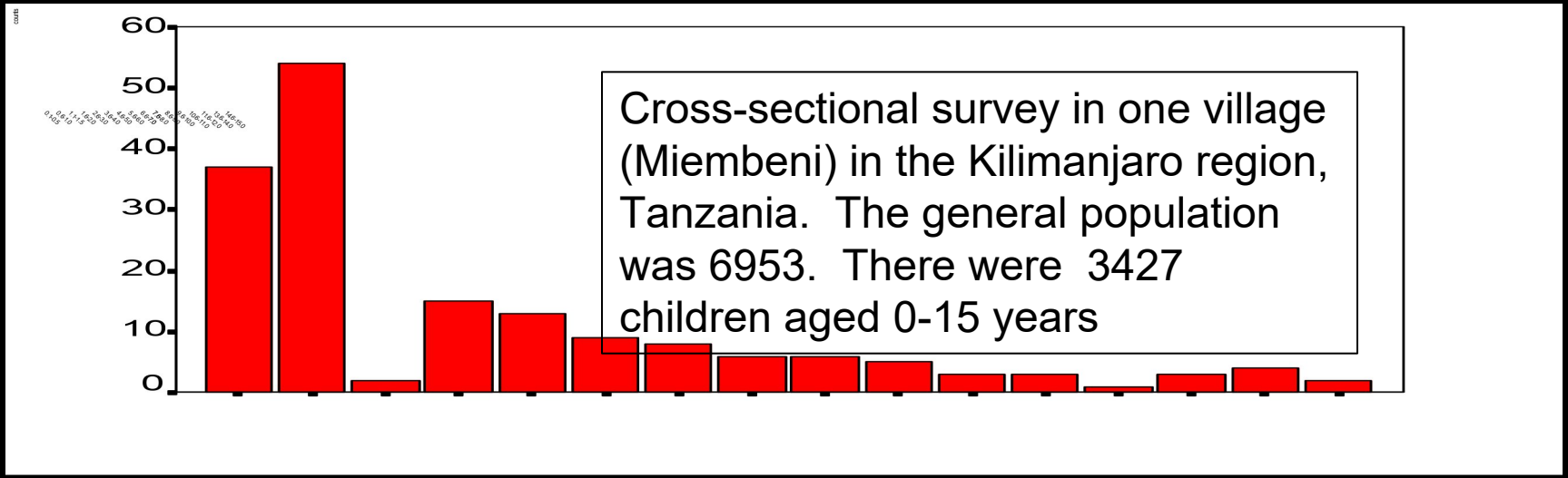


Figure 3 Relationship between Patient-Oriented-SCORing for Atopic Dermatitis (PO-SCORAD) and SCORAD total scores in the overall population.

What is atopic eczema prevalence/incidence in Africa?

Atopic eczema in Tanzania – clinical features

3427 children, 3268 took part, participation rate 92.2%
0 – 15 years, Female **94**/171=55% Male **77**/171=45%
Children with AD 171/3268 = 5.2%
Age 2 yrs. and below **106**/171=62%
Age 2-15 **65**/171=38%



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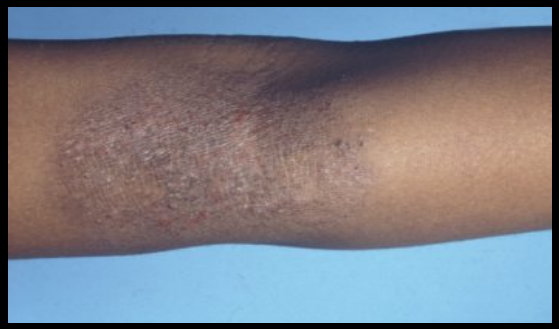

Validity of the UK criteria

PPV 56% (95% CI 10.4-28.9)

NPV 91% (95% CI 99.0-99.6)

Visible flexural eczema alone

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EPIDEMIOLOGY AND HEALTH SERVICES RESEARCH DOI 10.1111/j.1365-2133.2006.07606.x

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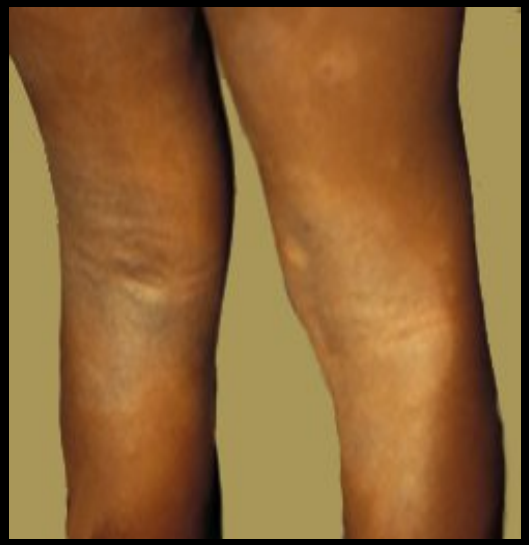
PPV 48.1% (95% CI 34.3-62.1)
NPV 99.8% (95% CI 99.5-99.9)



Worldwide Variation of asthma, allergic rhinitis and atopic dermatitis

ISAAC Study I and III

	ISAAC Study I		ISAAC Study III
Ethiopia	11.4 (3.2-19.9)		19.0
Kenya	10.4 (9.4-11.4)		15.2 (14.9-15.5)
Nigeria (13-14yr)17.7		7.7	
Nigeria (6-7yr)	4.5		5.0
South Africa	8.3		13.3
Morocco	8.7 (5-12)		21.8 (20.5-23)
Algeria	5.2		6.5
Tunisia	8.0		9.4

AD is an emerging public health problem in Africa
Large variations within countries and centres in same country

Non-allergic factors (EPAAC)
Urban living

What are African atopic eczema triggers and risk factors?

Study or Subgroup	Urban Events	Urban Total	Rural Events	Rural Total	Risk Ratio M-H, Random, 95% CI
1.1.1 Developed countries					
Brabäck *et al.*	36494	1119437	5235	197548	1·23 [1·20, 1·27]
Du Prel *et al.*	3374	20954	1222	7934	1·05 [0·98, 1·11]
Galassi *et al.*	351	4077	588	7003	1·03 [0·90, 1·16]
Hanifin *et al.*	5549	92483	1422	23705	1·00 [0·95, 1·06]
Heinrich *et al.*	477	4218	72	933	1·47 [1·16, 1·86]
Iversen *et al.*	243	1328	137	1000	1·34 [1·10, 1·62]
Kim *et al.*	194	2291	98	1392	1·20 [0·95, 1·52]
Kuhlisch *et al.*	1080	6317	364	3679	1·73 [1·55, 1·93]
Laughter *et al.*	190	1020	62	445	1·34 [1·03, 1·74]
Saeki *et al.*	1333	12207	1331	11512	0·94 [0·88, 1·01]
Selcuk *et al.*	78	3794	40	1618	0·83 [0·57, 1·21]
Van de Ven *et al.*	394	4065	384	4630	1·17 [1·02, 1·34]
Wolkewitz *et al.*	53	1175	238	6189	1·17 [0·88, 1·57]
Yu *et al.*	394	11580	86	2621	1·04 [0·82, 1·30]
1.1.2 Developing countries					
Bouayad *et al.*	899	4422	165	1243	1·53 [1·31, 1·79]
Chalmers *et al.*	21	1002	4	1048	5·49 [1·89, 15·94]
Gnaizdowska and Jefimow	210	2000	2	451	23·68 [5·90, 94·94]
Haileamlak *et al.*	180	4747	126	3168	0·95 [0·76, 1·19]
Lynch *et al.*	14	431	12	336	0·91 [0·43, 1·94]
Mavale Manuel *et al.*	183	1343	129	1168	1·23 [1·00, 1·52]
Maymi *et al.*	184	713	124	527	1·10 [0·90, 1·34]
Padegimas and Dauksiene	251	9010	81	4284	1·47 [1·15, 1·89]
Sole *et al.*	377	2674	50	352	0·99 [0·76, 1·30]
Vedanthan *et al.*	0	50	10	50	0·05 [0·00, 0·79]
Yemaneberhan *et al.*	81	9844	6	3032	4·16 [1·82, 9·52]
Zeng *et al.*	62	1778	108	3708	1·20 [0·88, 1·63]

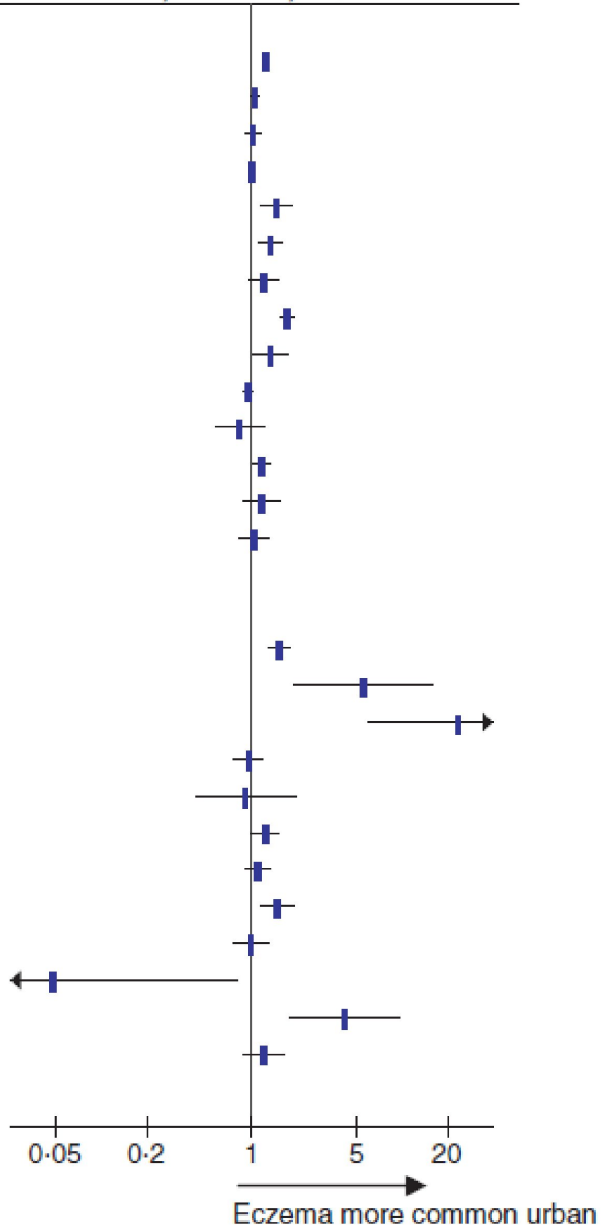


Table 5. Final logistic regression model

Risk factor	Odds ratio (95 % CI)	*P*-value	Effect on atopic dermatitis risk
Age			
0–19	1	<0.001	↑
20–39	1.49 (0.97–2.30)		
40–59	2.03 (1.24–3.35)		
60+	3.69 (2.10–6.49)		
Male sex	1.56 (1.12–2.16)	0.008	↑
Urban residence	3.74 (1.82–7.75)	<0.001	↑
Domestic kerosene use	2.32 (1.40–3.83)	0.001	↑
Indoor DDT use	0.35 (0.19–0.64)	0.001	↓
Lived elsewhere	2.08 (1.39–3.12)	<0.001	↑
Tigrean ethnic group	2.77 (1.46–5.25)	0.001	↑
Socio-economic status			
None of the below	1	0.46	
Radio (but none of below)	1.84 (0.79–4.33)		
Telephone (but none of below)	1.46 (0.73–2.94)		
TV (but no car)	1.67 (0.88–3.16)		
Car	1.13 (0.74–1.73)		
Wooden floor	6.12 (2.19–17.13)	0.008	↑
Parental smoking as a child	2.22 (1.35–3.63)	0.002	↑

CI, confidence interval.

Yemaneberhan H, Flohr C, Lewis SA, Bekele Z, Parry E, Williams HC, Britton J, Venn A.

Prevalence and associated factors of atopic dermatitis symptoms in rural and urban Ethiopia.

Clin Exp Allergy. 2004 May;34(5):779-85. doi: 10.1111/j.1365-2222.2004.1946.x. PMID: 15144471.

Prospective study of 12876 participants 1996

General population of Jimma (80 000) 9844 urban, 3032 rural

0 to 120 years

Prevalence 1.2% (ISSAC Questionnaire) urban 1.5%, rural 0.3%

Haileamlak A, Dagoye D, Williams H, Venn AJ, Hubbard R, Britton J, Lewis SA.

Early life risk factors for atopic dermatitis in Ethiopian children.

J Allergy Clin Immunol. 2005 Feb;115(2):370-6. doi: 10.1016/j.jaci.2004.10.024. PMID: 15696097.

Prospective study of 7915 children
General population of Jimma
1-5 years, patients and controls
Prevalence 4.4% (ISAAC)

Parasites (Trichuris) (1.61, 95% CI 1.14-2.26)
Access to piped drinking water cf. river water
Fruit >1/week (2.29, 95% CI 1.40-3.77)
Malaria history (2.18, 95% CI 1.53-3.10)

Vaccination (DPT, polio)

Family size, crowding, breast feeding, income, education, sensitization patterns, animals type of dwelling etc

Current epidemiology of atopic dermatitis in south-eastern Nigeria.

Nnoruka EN.

Int J Dermatol. 2004 Oct;43(10):739-44. doi: 10.1111/j.1365-4632.2004.02360.x. PMID: 15485531.

Prospective study. 12013 patients, teaching hospital, 1998 to 2000
1019 patients with AD (8.5% prevalence) and 726 controls
Age: 4 weeks to 57 years
AD Onset: before 10 years 51.3%
teens/early adulthood 25.6%
after 21 years 24.5%

First degree family member with atopy 42% cf 13.3% controls
Weather (30.4%), heat intolerance, humidity, perspiration, grass intolerance, thick woolen clothing, drug reactions, stress
Food intolerance, (egg, crayfish, artificial milk), 3.5%
Parasites in stool (n=100) 2% cf. 3%
HIV (n=67) 1.3%

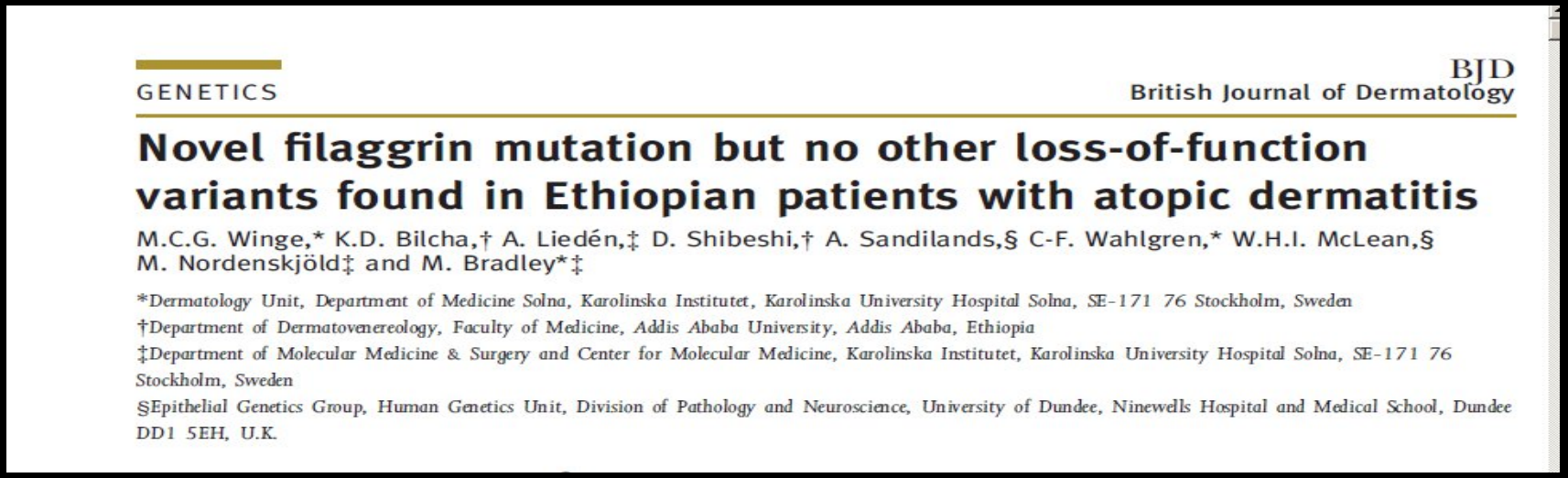
TABLE 2 Filaggrin null mutations in individuals of African Ancestry

Race	Number studied	% with R501X	% with 2282del4	% with R2447X	% with S3247X	New (% affected)	Ethnic group	Ref.
Black	370 AD	3.2%	0.5%	0.7%	1.5%	N/A	African American	[43]
White	433 AD	13.8%	12.0%	1.4%	2.8%	N/A		
Black	60 AD	0	0	0	0	Q507X (1.7%)	African American	[44]
						R3409X (1.7%)		
						S3707X (1.7%)		
Black	187 AD/ADLH	3.2% Aa	3.2% Aa*	N/A	N/A	None	African American	[42]
	152 C	0	1.3%					
White	278 AD/ADFH	14% Aa, 1.4% aa	13.9% Aa, 1.8% aa					
	157 C	2.6% Aa	3.2% Aa					
Black	18 AD + IV	5.6%	11.1%	N/A	N/A	R826X (5.6%)	African American	[60]
	17 C	0	0			R826X (5.6%)		
Black	12 AD	0	0	N/A	N/A	None	African American	[50]
	11 C	0	0					
White	17 AD	0	8.8% Aa					
	27 C	0	0					
Black	69 AD	0	0	0	0	N/A	South African amaXhosa	[45]
Black	103 AD	0	0	0	0	632del2 (0.009%)	Ethiopian	[47]
	7 IV	0	0	0	0	0		
	103 C	0	0	0	0	0		

Atopic dermatitis in diverse racial and ethnic groups —Variations in epidemiology, genetics, clinical presentation and treatment

Kaufman BP, Guttman-Yassky E, Alexis AF

Experimental Dermatology. 2018;27:340–357



GENETICS

BJD
British Journal of Dermatology

Novel filaggrin mutation but no other loss-of-function variants found in Ethiopian patients with atopic dermatitis

M.C.G. Winge,* K.D. Bilcha,† A. Liedén,‡ D. Shibeshi,† A. Sandilands,§ C-F. Wahlgren,* W.H.I. McLean,§ M. Nordenskjöld‡ and M. Bradley*‡

*Dermatology Unit, Department of Medicine Solna, Karolinska Institutet, Karolinska University Hospital Solna, SE-171 76 Stockholm, Sweden

†Department of Dermatovenereology, Faculty of Medicine, Addis Ababa University, Addis Ababa, Ethiopia

‡Department of Molecular Medicine & Surgery and Center for Molecular Medicine, Karolinska Institutet, Karolinska University Hospital Solna, SE-171 76 Stockholm, Sweden

§Epithelial Genetics Group, Human Genetics Unit, Division of Pathology and Neuroscience, University of Dundee, Ninewells Hospital and Medical School, Dundee DD1 5EH, U.K.

The tight junction gene Claudin-1 is associated with atopic dermatitis among Ethiopians

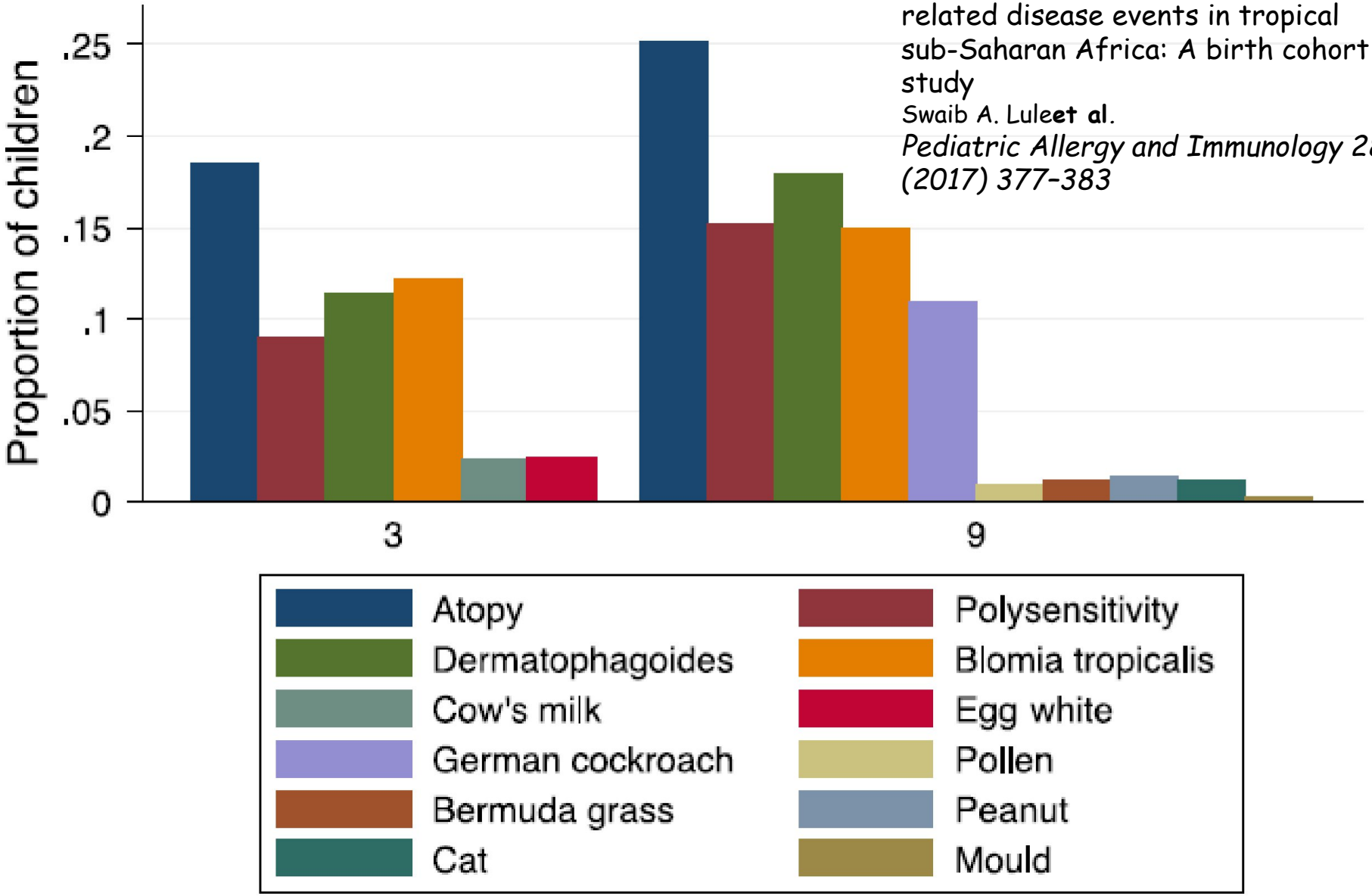
S. Asad, M.C.G. Winge, C.-F. Wahlgren, K.D. Bilcha, M. Nordenskj€old, F. Taylan, M. Bradley

JEADV 2016, 30, 1939–1941

Life-course of atopy and allergy-related disease events in tropical sub-Saharan Africa: A birth cohort study

Swaib A. Lule**et al**.

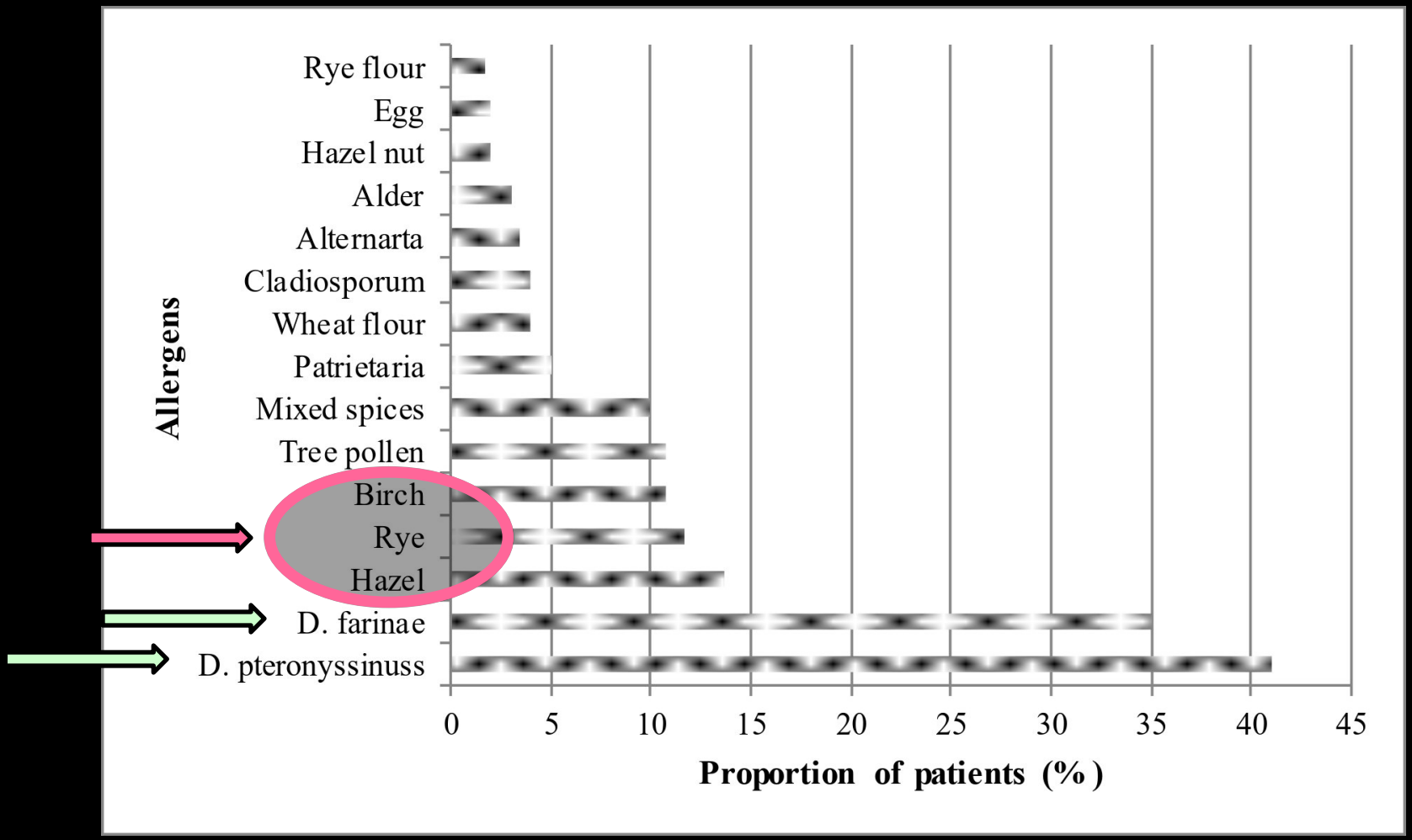
Pediatric Allergy and Immunology 28 (2017) 377–383



2345 live-born children, 1214 (52%) were seen at 9 years.

SENSITIZATION PROFILE ON ALLERGENS OF ADULT PATIENTS HAVING ATOPIC AND NON-ATOPIC DIATHESIS ATTENDING KCMC, NORTHERN TANZANIA

JULIETH K. KABAGIRE



Allergen	Prevalence % (n)	
	Cases (N=76)	Controls (N=148)
nDer p 1	79 (60)	7 (10)
nDer p 2	74 (56)	7 (10)
nDer f 1	78 (59)	7 (10)
rDer f 2	70 (53)	7 (10)
rEur m 2	62 (47)	4 (6)
rPhl p 1	43 (33)	4 (6)
nCyn d 1	43 (33)	5 (7)
nMus m 1	39 (30)	0 (0)
nPhl p 4	30 (23)	3 (4)
nGal d 1	26 (20)	0 (0)
nAra h 2	25 (19)	0 (0)
rPhl p 2	20 (15)	2 (3)
nPla a 2	20 (15)	2 (3)

Analysis of the sensitization profile towards allergens in central Africa.
Westritschnig K, Sibanda E, Thomas W, Auer H, Aspöck H, Pittner G, et al.
Clin Exp Allergy. 2003 Jan 1;33(1):22-7

Table 3. Origin, characteristics and IgE recognition frequency of purified allergens from timothy grass, birch pollen and house dust mites. The table displays allergen sources, allergen names (n, natural; r, recombinant), molecular weights (MW) and biological functions of the allergens. The IgE recognition frequency determined in central Europe (Austria) was compared with that found for the patients from Zimbabwe

Allergen source	Allergen	MW (kDa)	Biological function	Frequency of IgE recognition Austria (%)	Frequency of IgE recognition Zimbabwe (%)
Phleum pratense (timothy grass)	rPhl p 1	26.1	Similar to expansins	96	80
	rPhl p 2	10.7	Unknown	68	0
	nPhl p 4	55	Unknown	84	92
	rPhl p 5a	31	Ribonuclease (putative)	100	27
	rPhl p 6	11.8	P-particle associated	52	15
	rPhl p 7	8.6	Calcium-binding	8	0
	rPhl p 12	14	Actin-binding (profilin)	24	7
Betula verrucosa (birch)	rBet v 1	17.4	IPR-protein	95	0
	rBet v 2	14	Actin-binding (profilin)	10	100
Dermatophagoides pteronyssinus (house dust mite)	rDer p 2	14.1	Unknown	80	70
	rDer p 5	14	Unknown	15	45
	rDer p 7	23.7	Unknown	0	35
	rDer p 10	36	Tropomyosin	10	55

Sensitization profiles of 650 allergy patients

Allergen profiles in Africans differed from Europeans

What about therapies and their relevance to African patients?

EDL - Skin conditions

amoxycillin
aqueous cream
benzathine penicillin
6% benzoic acid 3% salicylic acid
5% benzoyl peroxide
25% benzyl benzoate
calamine lotion
chlorpheniramine
clotrimazole
doxycycline
emulsifying ointment
erythromycin
ethyl chloride
0.5% gentian violet
flucloxacillin
griseofulvin
1% hydrocortisone
2% miconazole
monosulfiram
nystatin
1% & 5% permethrin
polyvidone iodine
selenium sulphide
zinc oxide

TABLE 1 Reviewed publications

Countries represented	Organization or author affiliation	Publication
Canada	Eczema Society of Canada	Atopic Dermatitis: A Practical Guide to Management
Germany	AWMF: Association of the Medical Societies in Germany	S2k guideline on diagnosis and treatment of atopic dermatitis—short version
Italy	Italian Society of Pediatric Dermatology, Italian Society of Pediatric Allergology and Immunology	Consensus Conference on Clinical Management of pediatric atopic dermatitis
Japan	Japanese Dermatological Association	Clinical Practice Guidelines for the Management of Atopic Dermatitis
Korea	Dept. of Dermatology, Gachon University Gil Medical Center	Consensus Guidelines for the Treatment of Atopic Dermatitis in Korea: Parts I and II
Poland	Dermatological Section, Polish Society of Allergology, and the Allergology Section, Polish Society of Dermatology	Atopic dermatitis: current treatment guidelines. Statement of the experts of the Dermatological Section, Polish Society of Allergology, and the Allergology Section, Polish Society of Dermatology
Serbia	The Serbian Association of Dermatologists	National Guidelines for the Treatment of Atopic Dermatitis
Singapore	Dept. of Dermatology, Changi General Hospital, Singapore	Guidelines for the management of Atopic Dermatitis in Singapore
South Africa	Dermatological Society of South Africa	Management of atopic dermatitis in adolescents and adults in South Africa
Taiwan	Taiwanese Dermatological Association	Taiwanese Dermatological Association consensus for the management of atopic dermatitis
UK	National Collaborating Centre for Women's and Children's Health	Atopic eczema in children: management of atopic dermatitis in children from birth up to the age of 12 y
U.S.A.	American Academy of Dermatology	Guidelines of care for the management of atopic dermatitis: Sections I-IV
Asia-Pacific; Australia, Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, and Taiwan	Japanese Dermatological Association—An Asia-Pacific Perspective	Consensus guidelines for the management of atopic dermatitis: An Asia-Pacific perspective
Europe: Germany, Spain, Denmark, Italy, the Netherlands, Croatia, Switzerland, Austria, Hungary, Poland, and France	European Academy of Dermatology and Venereology	Guidelines for treatment of atopic eczema (atopic dermatitis): Parts I and II

Atopic dermatitis in diverse racial and ethnic groups — Variations in epidemiology, genetics, clinical presentation and treatment

Kaufman BP, Guttman-Yassky E, Alexis AF

Experimental Dermatology. 2018;27:340–357

A thorough understanding of the unique genetic, clinical and molecular features of AD across a broad range of racial/ethnic AD subtypes is critical as we care for an increasingly multinational patient population.

- Under representation of some races in clinical trials as well as lack of subset analyses by race
- Of AD clinical trials published between 2000 and 2009, only 59.5% of studies included race and ethnicity as baseline demographic information
- The majority of patients included were White (62.1%), followed by 18.0% Black, 6.9% Asian and 2.0% Hispanic.
- Only 10.3% of studies commented on race or ethnicity in the interpretation of results, making it difficult to extrapolate the results to other ethnic groups
- Crisaborole, pimecrolimus, topical steroids, phototherapy

African Journals Online (AJOL)

African Journals OnLine (AJOL) is the world's largest online library of peer-reviewed, African-published scholarly journals

- AJOL hosts 523 journals, including 253 open access journals.
- The site has 13 633 Issues containing 163 024 Abstracts.
- 32 African countries are represented

Historically, scholarly information has flowed from North to South and from West to East. It has also been difficult for African researchers to access the work of other African academics. In partnership with hundreds of journals from all over the continent, AJOL works to change this, so that African-origin research output is available to Africans and to the rest of the world.

https://www.ajol.info/

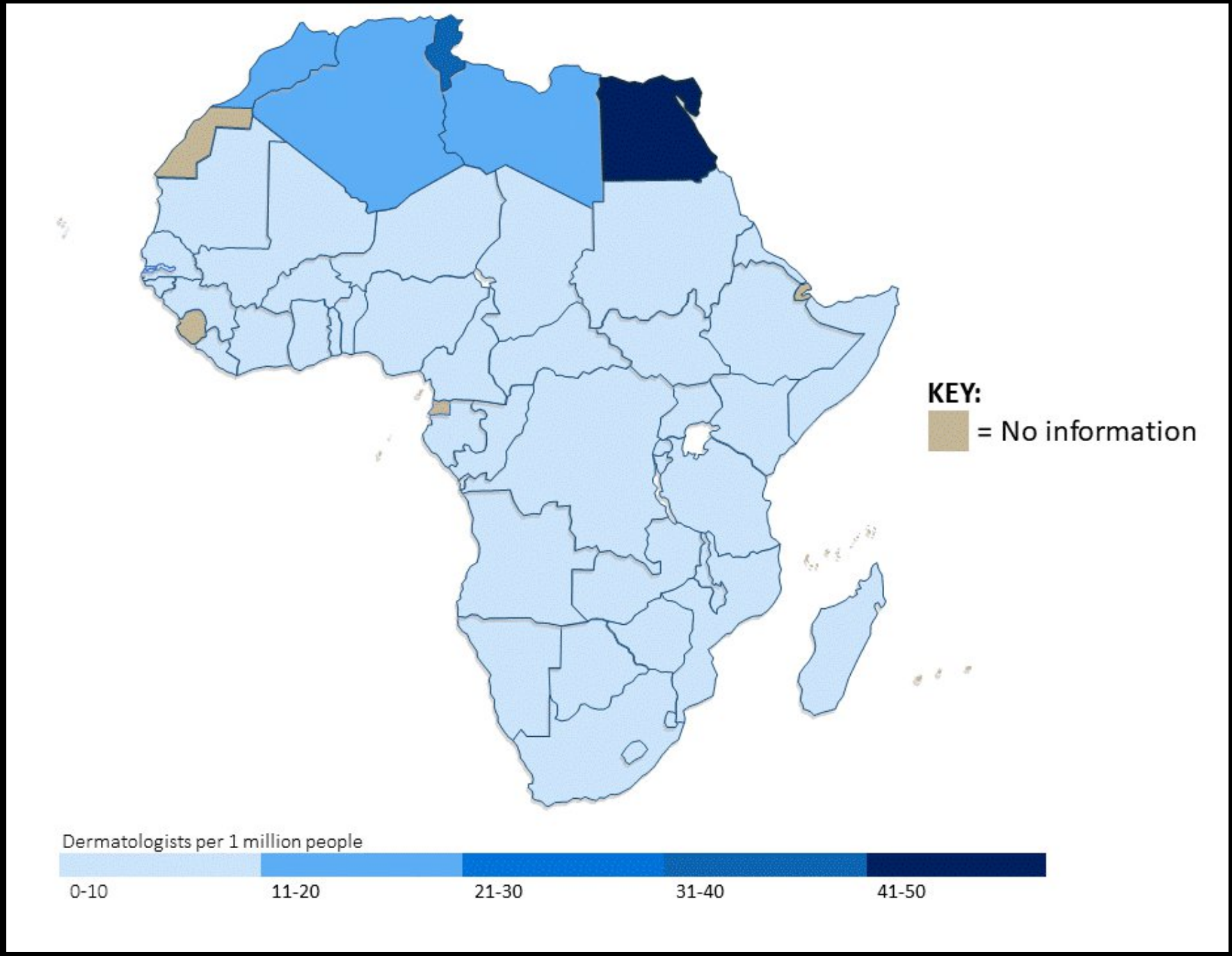
What about education and training in Africa?

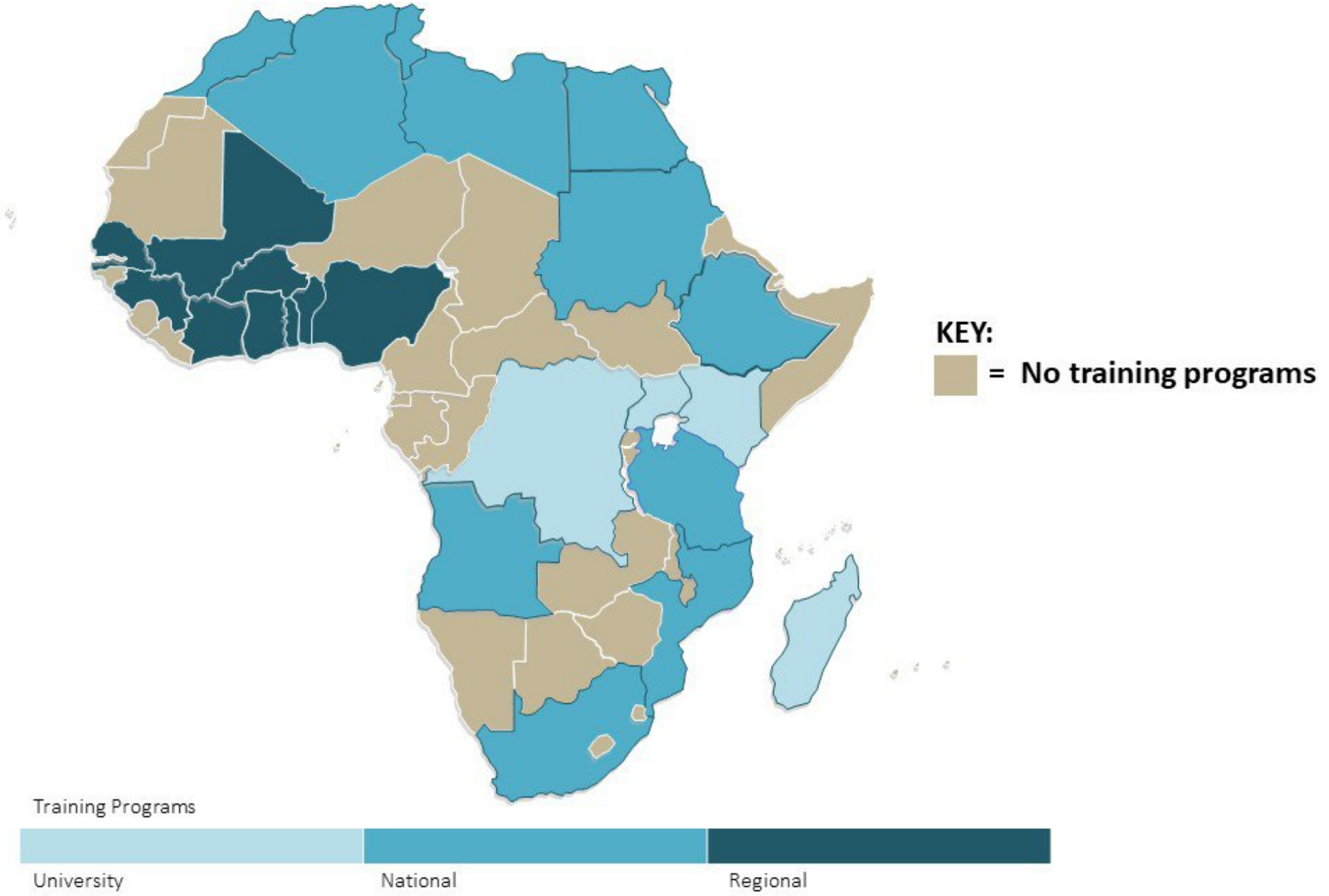
Dermatology Training in Africa: Successes and Challenges.

Mosam A, Todd G.

Dermatol Clin. 2021 Jan;39(1):57-71.
doi: 10.1016/j.det.2020.08.006. PMID: 33228862.

- Africa: 55 independent nations, population 1.2 billion, 30.5 people/km^2
- Prevalence of skin disease ranges
  Rural Africa 26.9% (Tanzania) to 80.4% (Ethiopia).
  New consultations 6.9% (all levels of public health care, Mali) to 13% for primary care in 83 villages in Cameroon (WHO report).
- Dermatologists <1 per million population (except for North Africa).
- Dermatology training programs 25/55 countries
  10 regional, 10 national, 5 university based.
- Training programmes are of international standard. Graduates are competent clinicians, knowledgeable of local customs and needs.
- Training programmes designed in the "global north" and transplanted into African universities emphasize practices, which are not available, cost-effective, or based on evidence from Africa. These programs often reflect colonial roots and need de-colonisation to make them relevant to Africa.


KEY:
= No information
Dermatologists per 1 million people
0-10
11-20
21-30
31-40
41-50


KEY:
= No training programs
Training Programs
University
National
Regional

What do African patients and care givers want?

The quality of life of caregivers of children with atopic dermatitis in a South African setting

Singh B, Thandar Y, Balakrishna Y, Mosam A

***S Afr J Child Health* 2019;13(2)**:63-68. DOI:10.7196/SAJCH.2019.v13i2.1544

119 (84%) black, 20 (14%) Indian and 3 (2%) mixed origins patients

QOL (DFI) factors significantly affected were emotional distress of the caregiver ($p<0.0001$), tiredness of the caregiver ($p<0.0001$) and family leisure activities ($p<0.0001$). Involvement in treatment ($p=0.016$), food preparation and feeding ($p=0.003$), the family's sleep ($p=0.001$) and the caregiver's relationships ($p=0.025$) were moderately affected.

The unique sociodemographic and economic factors in countries globally warrant an assessment of factors that particularly affect AD in each setting to offer patients more holistic care.

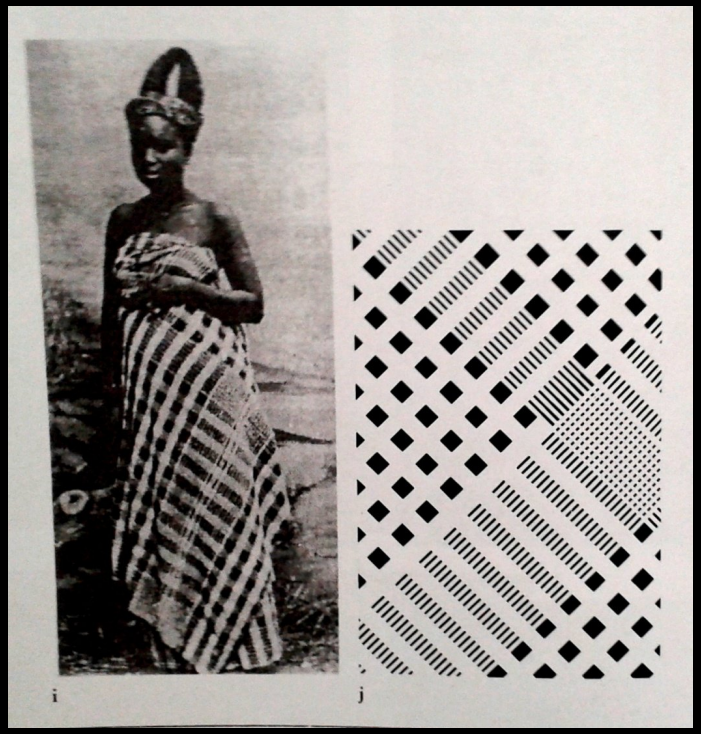
http://www.asdvafrica.org/

ASDV

AFRICAN SOCIETY
OF DERMATOLOGY & VENEROLOGY

SOCIÉTÉ AFRICAINE DE
DERMATOLOGIE ET VÉNÉRÉOLOGIE

EST. 2015



When "Europeans" first came to Africa, they considered the architecture very disorganised and thus primitive even though it was done according to careful rules of symmetry, proportionality and repetition now known as fractal design a form of mathematics that hadn't been "discovered yet."


Thank
you