



A descriptive account of the clinical criteria of atopic dermatitis in black children in KwaZulu-Natal – South Africa

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No conflicts of interest

Introduction

- Atopic dermatitis (AD) is a heterogeneous disease, with differences in prevalence and genetic backgrounds in different ethnic and racial groups.
- Various AD diagnostic criteria have been developed over time
- These criteria were developed and validated primarily in the global North
- Representation of African patients with AD and those from the global South is poor
- Dermatologists in Africa have observed that the existing criteria for diagnosis of AD need adaptation for African populations as certain features dominate more in Africans

Aims & Objectives

Aim:

- To describe and document features of AD in black children in KwaZulu-Natal, South Africa

Objectives:

- To define the clinical features observed in black children
- To assess the findings relative to published research diagnostic criteria

Methods

Study design and setting

- A prospective cross-sectional study

Study population

- Black African AD patients
- Ages 2-17 years
- Diagnosed clinically by dermatologist
- KEH VIII – dermatology clinic

AD criteria

- Four AD criteria chosen for evaluation
- Used globally and specifically on pigmented skins

Methods



Data collection

Form included diagnostic features of AD

Completed by dermatology registrars and consultant

Assessed & recorded clinical features of AD



Statistical methods

Proportions of participants with each feature

95% binomial exact confidence intervals calculated

Participants classified according to various criteria



Ethical consideration

Ethical clearance – KEH ethics & BREC (BREC/00007266/2024)

Informed consent and assent

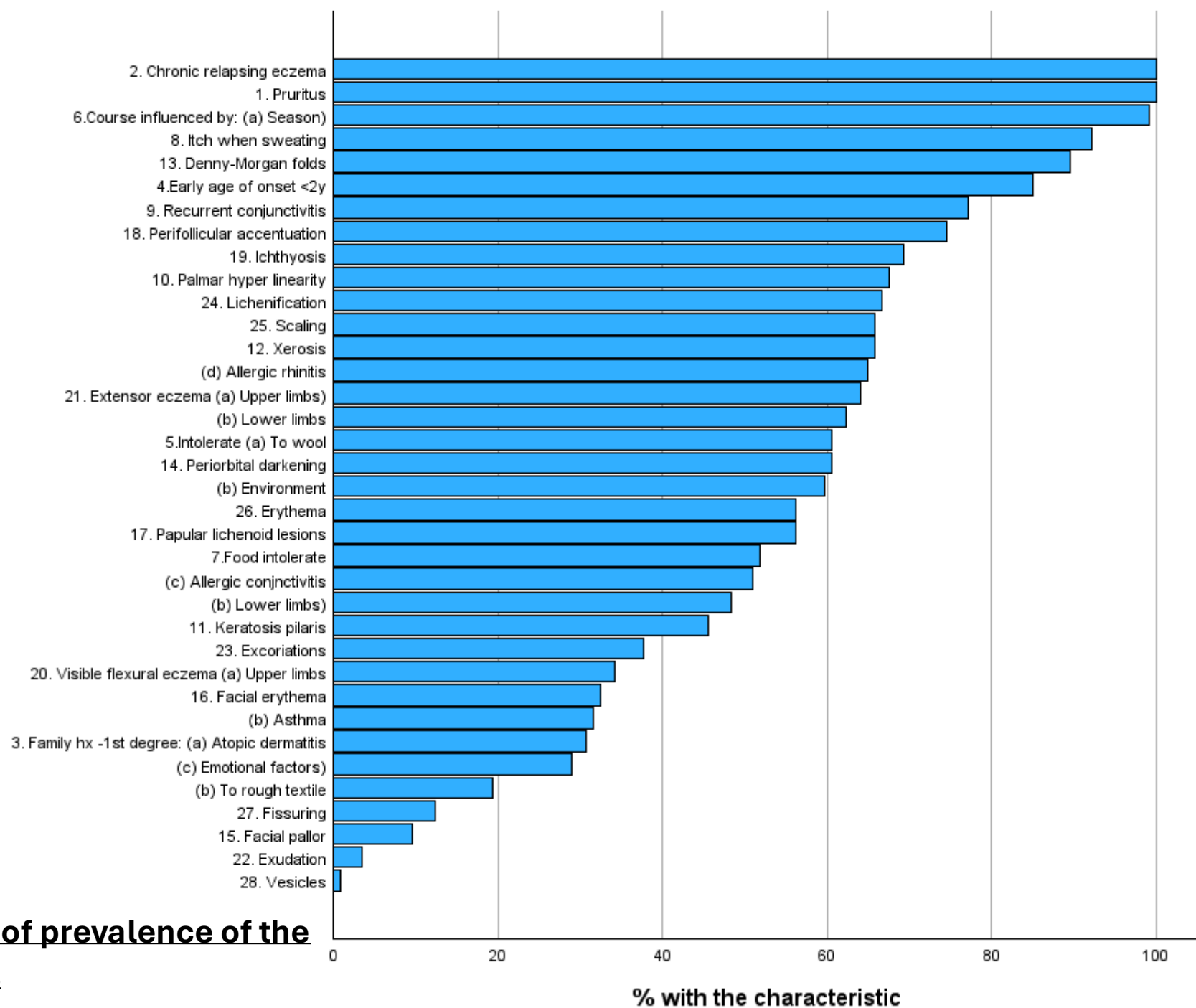


Figure 1: Order of prevalence of the characteristics

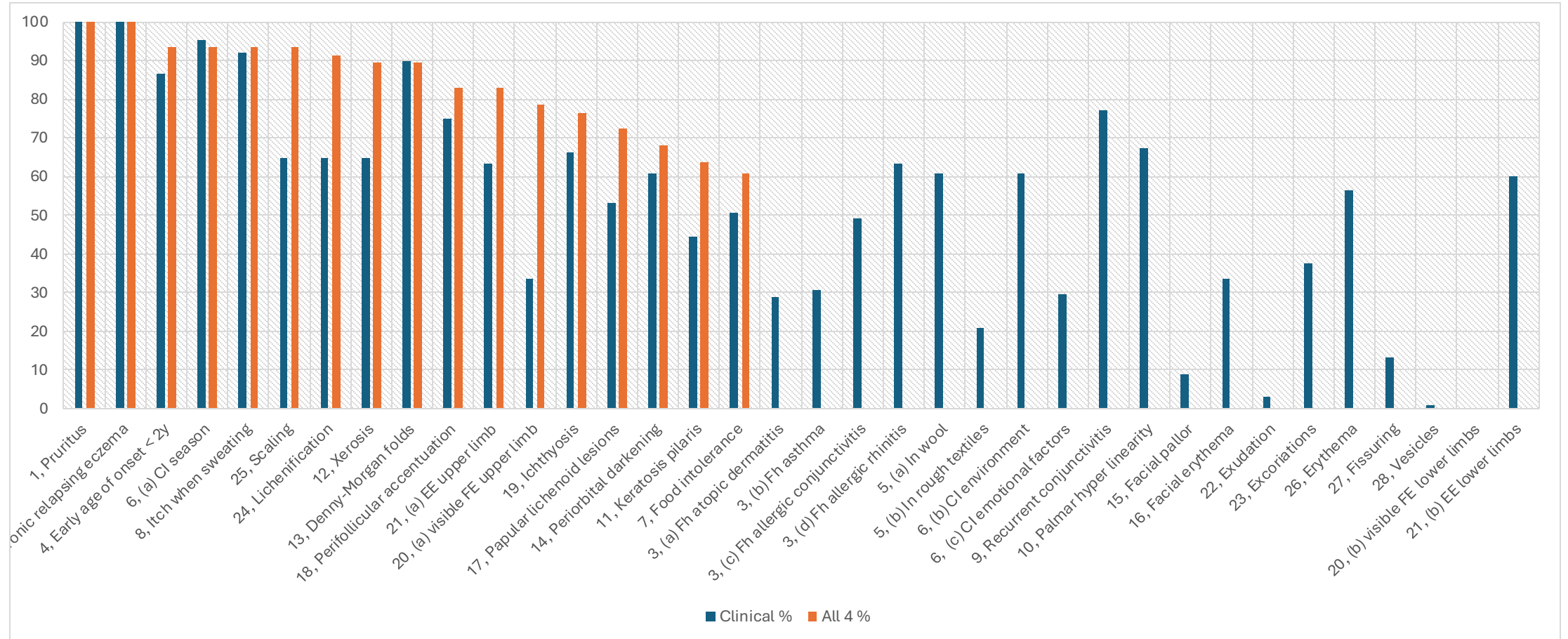
Table 2: Frequencies and percentages of the sample diagnosed according to different criteria.

		Count	%
Hafinin and Rajka Diagnostic criteria	Negative	19	14.8%
	Positive	109	85.2%
	Total	128	100.0%
UKWorking PartyDiagnosticcriteria	Negative	63	49.2%
	Positive	65	50.8%
	Total	128	100.0%
ISAAC Diagnostic criteria	Negative	55	43.0%
	Positive	73	57.0%
	Total	128	100.0%
Japanese Diagnostic Association criteria	Negative	38	29.7%
	Positive	90	70.3%
	Total	128	100.0%

Table 3: Number of positive diagnoses according to each of the 4 criteria

		Count	%
Positive diagnoses according to the 4 criteria	0 positive	9	7.0%
	1 positive	21	16.4%
	2 positive	25	19.5%
	3 positive	26	20.3%
	4 positive	47	36.7%
	Total	128	100.0%

Figure 2: Percentage Of each feature found meeting the 4 criteria relative to the prevalence of the whole cohort



Clinical features of dermatologist diagnosed AD in Black children

- Pruritus has been reported in most AD patients in many regions globally
- In Africa it is reported in 77% of AD patients – regional & age-related clinical variations of AD
- Pruritus & chronic relapsing eczema are not diagnostic or specific to AD - are seen in other skin conditions
- Extensor eczema was a prominent feature compared to flexural eczema – consistent with African studies
- Ichthyosis & palmar hyper linearity in >60% - considering that filaggrin mutations are uncommon in African populations
- Course influenced by season has been reported in Africa – our study no specific season
- Reports from Africa documents Denny Morghan folds of <50%, our study >80% - validation needed
- Varied frequencies of early age of onset < 2 years in African studies
- Perifollicular accentuations 75% in our study & reported more in pigmented skin – in a Tunisian study was seen in 58,4% in an AD cohort
- Lichenification & scaling – presence not unexpected

Clinical features of dermatologist diagnosed AD Black children as applied to AD criteria

- The H&R criteria proved the best of the chosen four AD criteria for AD diagnosis.
- The H&R criteria picked up more children because it is more comprehensive and encompassing – this was also found in validation studies in Tunisia
- The UKWP criterion identified 50.8% cases and the ISAAC 57.0%. Both do not include most of the minor clinical features included in H&R. The Japanese criteria, which includes some of the minor features of AD as integral components of the criteria identified 70.3% cases.
- Validation study from Tunisia highlighted the importance of minor criteria in certain ethnicities & geographical areas
- Out of the 128, 47 were confirmed AD positive by all 4 of the criteria selected for comparison – we documented features of AD that were variably present in all evaluated criteria
- Criteria that include these features may be more reliable identification and diagnosis of AD in our population

Conclusion

- The results of our study were consistent with the result from other African countries
- Further studies are required to confirm ethnic differences in the features of AD
- There is a need to review pruritus & chronic relapsing eczema as major features in diagnosing AD
- The H&R criteria picked up the highest number of positive cases in our cohort
- Of the four chosen criteria, we suggest that H&R is the best to apply in clinical use and future studies - validation studies are required



Co-authors & participants

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