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## ORIGINAL ARTICLE

### Food and Aeroallergen Sensitization, Eosinophils Levels and Risk of Atopic Dermatitis in Abuja

*Sensibilisation Alimentaire Et Aéroallergénique,  
Taux D'éosinophiles Et Risque De Dermatite Atopique À Abuja*

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#### ABSTRACT

**BACKGROUND:** The barrier dysfunction of atopic dermatitis (AD) promotes epicutaneous sensitization to aeroallergens. This study aimed to evaluate the prevalence of food and aeroallergen sensitization in AD and to explore the relationship between allergen sensitization and the personal or family history of allergic rhinitis, conjunctivitis, asthma, eosinophil count, and AD severity of Nigerian patients.

**METHODS:** Children and adults with AD who visited the dermatology clinic were included in this study. AD diagnosis was made using the modified Hanifin and Rajka criteria, and severity was rated and graded using the Scoring Atopic Dermatitis (SCORAD) index. Skin-prick test for 14 allergens (5 food and 9 aeroallergens) was used to assess IgE sensitization. To look for significant relationships, chi-square and odds ratio were used.

**RESULTS:** Sensitization to at least one allergen was observed in 65.8% of the patients, sensitization to aeroallergen was 85% and to foods was 15%. More patients had concomitant allergic conjunctivitis (n=29) and only three had asthma. The mean age of onset of AD was  $10.6 \pm 12.9$  years, ranging from 2 months to 51 years, and a family history of atopy was observed in 49.4%. Majority had moderate AD and normal eosinophil count. Allergen sensitization in AD patients was significantly associated with the age of patients but not with personal or family history of allergic rhinitis, conjunctivitis, asthma, eosinophil count or AD severity.

**CONCLUSION:** Analysis of our result showed a high prevalence of food and aeroallergen sensitization in AD. Sensitization was not influenced by the presence of other allergic diseases, eosinophils and the severity of AD.

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**Keywords:** Atopic dermatitis, Food and aeroallergen sensitization, Atopic diseases, Eosinophils, Severity of atopic dermatitis

#### RÉSUMÉ

**CONTEXTE:** La dysfonction de la barrière cutanée de la dermatite atopique (DA) favorise la sensibilisation épicutanée aux aéroallergènes. Cette étude visait à évaluer la prévalence de la sensibilisation alimentaire et aéroallergénique dans la DA et à explorer la relation entre la sensibilisation aux allergènes et les antécédents personnels ou familiaux de rhinite allergique, conjonctivite, asthme, le taux d'éosinophiles et la sévérité de la DA chez les patients nigérians.

**MÉTHODES:** Les enfants et les adultes atteints de DA qui ont visité la clinique dermatologique ont été inclus dans cette étude. Le diagnostic de la DA a été établi en utilisant les critères modifiés de Hanifin et Rajka, et la gravité a été évaluée et classée à l'aide de l'indice de Scoring Atopic Dermatitis (SCORAD). Le test cutané aux 14 allergènes (5 alimentaires et 9 aeroallergènes) a été utilisé pour évaluer la sensibilisation IgE. Pour rechercher des relations significatives, le chi carré et le rapport de cotes ont été utilisés.

**RÉSULTATS:** Une sensibilisation à au moins un allergène a été observée chez 65,8% des patients, la sensibilisation aux aeroallergènes était de 85% et aux aliments de 15%. Plus de patients présentaient une conjonctivite allergique concomitante (n=29) et seulement trois avaient de l'asthme. L'âge moyen de début de la DA était de  $10,6 \pm 12,9$  ans, allant de 2 mois à 51 ans, et des antécédents familiaux d'atopie ont été observés chez 49,4%. La majorité avait une DA modérée et un taux d'éosinophiles normal. La sensibilisation aux allergènes chez les patients atteints de DA était significativement associée à l'âge des patients, mais pas aux antécédents personnels ou familiaux de rhinite allergique, conjonctivite, asthme, au taux d'éosinophiles ou à la gravité de la DA.

**CONCLUSION:** L'analyse de nos résultats a montré une prévalence élevée de la sensibilisation alimentaire et aéroallergénique dans la DA. La sensibilisation n'était pas influencée par la présence d'autres maladies allergiques, d'éosinophiles et de la sévérité de la DA.

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**Mots-clés:** Dermatite atopique, Sensibilisation alimentaire et aéroallergénique, Maladies atopiques, Éosinophiles, Sévérité de la dermatite atopique.

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#### Abbreviations:

AD: Atopic dermatitis; IgE: Immunoglobulin E; SPT: Skin prick test; ARIA: Allergic rhinitis and its impact on asthma; SCORAD: Scoring atopic dermatitis