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## Sun exposure and vitamin D in adult atopic dermatitis: A case-control study

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**Introduction:** Atopic Dermatitis (AD) is a chronic relapsing skin disease. Lower levels of vitamin D have been associated with severity of atopic dermatitis. Results in previous studies have not been consistent. Factors affecting vitamin D status such as body mass index (BMI) and sun exposure were not always assessed.

**Aim & Methodology:** It is a case-control study with 38 cases and 38 matched controls to determine the relationship between vitamin D status and AD and the association between sun exposure and dietary intake with vitamin D status. Appropriate selection criteria, blood sampling and validated questionnaire for AD severity, (SCORAD) were used.

**Results:** 15 (39.5%) mild AD, 17 (44.7%) moderate and 6 (15.8%) severe AD. Serum Vitamin D levels did not correlate with AD severity. Serum Vitamin D was significantly lower in AD [15.9(9.9-24.0) ng/ml] than controls [17.3(14.4-27.2) ng/ml,  $p=0.028$ ]. There was a statistically significant association between Vitamin D and case-controls. [ $\chi^2 (2)=20.041$ ,  $p<0.001$ ]. Vitamin D was sufficient in 16 (42.1%) AD; 15 (39.5%) controls, insufficient in 7 (18.4%) AD; 22 (57.9%) controls and deficient in 15 (39.5%) AD; 1 (2.6%) control. Sun exposure was similar in both groups. Cases had significantly higher dietary vitamin D intake [1.5(0.6-3.1) vs 0.6 (0.3-1.0)  $\mu\text{g}$ ]. AD had higher odds for Vitamin D deficiency; OR 17.52 (95% CI: 1.4-212.7;  $p=0.025$ ). There were statistically significant differences in sun exposure index and serum vitamin D between different ethnic groups and gender, in general.

**Conclusions:** Vitamin D deficiency is a risk for AD. This study highlighted the role of sun exposure in vitamin D status.

### Biography

Mohan Arumugam is currently a lecturer and physician, with the dermatology unit, department of internal medicine, at the National University of Malaysia (Universiti Kebangsaan Malaysia). He completed his post graduate studies in doctor of internal medicine in 2016. He graduated with a degree in Nutrition and Community Health before pursuing medical studies. Upon completing medical studies, from Universiti Putra Malaysia, in 2003, he held the positions of medical and health officer and medical officer, in various Malaysian Ministry of Health hospitals. In 2008, he initiated the dermatology clinic at Hospital Serdang, while serving as a medical officer. It was this assignment that sparked his interest in dermatology. His research interests in medicine include: Autoimmune skin disorders; Atopic dermatitis; Immunology in nutrition and medicine.

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