

ABSTRACT FOR PARALLEL SESSIONS

S1-H01

Comparison of Ethnic Variations in Skin Physiological Conditions and Stratum Corneum Lipid Compositions among Malaysians, Koreans, and Vietnamese

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ABSTRACT

The understanding of ethnic variations in permeability barrier characteristic of the skin is important for the development of cosmetic product with a specialized formulation that fits well to the skin of the respective ethnic group. The aim of this study was to investigate the differences in skin physiological conditions and stratum corneum (SC) lipid properties in healthy three Asian ethnic groups (Malaysians, Koreans, and Vietnamese) that living in the same environment. Epidermal thickness was measured by confocal reflectance microscopy (CRM), and other skin conditions (transepidermal water loss (TEWL), skin pigmentation, SC hydration and sebum content) were analyzed using a multifunctional skin physiology monitor. SC lipids were extracted from the inner forearms by a cup method. Malaysians had the thickest epidermis, followed by Korean and Vietnamese. The analysis of skin barrier function expressed in TEWL showed that Malaysian had the weakest skin barrier function compared to that of Vietnamese and Koreans. In addition, Malaysian skin was found to have high sebum content, but lowest SC lipid content than those of Koreans and Vietnamese. The HPTLC densitometry analysis also revealed that Malaysian having the lowest value of ceramide/cholesterol ratio as compared with both Korean and Vietnamese. These differences were found to correlate with the higher TEWL in Malaysian skin. Higher amount of CER [NS] and [EOP], and lower amount of CER [NP], [ADS] and [AH] were also observed in Malaysian than that of Korean and Vietnamese. These findings illustrate variations in skin physiological conditions and stratum corneum lipid properties among three Asian ethnic groups. Therefore, the present study contributes to a better understanding and diversity of Asian skin differences.

Keywords: Ethnic Variation, Epidermal Thickness, Skin Barrier Function, Stratum Corneum Lipid And Ceramides