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Variability in the composition of human skin surface lipids in tropical climates.

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Abstract

Skin surface lipid samples were collected by the hexane sponge technique from the foreheads of 180 male and 131 female Saudi subjects living in the Jeddah-Makkah area (summer temperatures up to 47 degrees C). The lipid samples were analyzed by densitometric thin layer chromatography. Seven major lipid classes were determined. The percentages for squalene, cholesterol esters, wax esters, triglycerides, free fatty acids, cholesterol and diglycerides were determined. When these parameters were compared to the corresponding values reported for subjects living in the much cooler climates of Europe and N. America, most of the values for Saudi females were found very similar to the values of these subjects, while for Saudi males squalene and wax esters were 2.8-5.1% higher and the triglycerides/free fatty acids were 3-5% lower. The possible reasons for the observed variability between both sexes, their relation to European and N. American subjects, as well as the role of hot climates in inducing these variations are discussed