

GLOBAL SKIN HEALTH

SKIN SURFACE PH LEVELS IN AFRICANS

Frances Ajose⁽¹⁾ - Olufolakemi Cole⁽²⁾

Lagos State University College Of Medicine, Medicine, Lagos, Nigeria⁽¹⁾ - Lagos State University Teaching Hospital, Medicine Dermatology, Lagos, Nigeria⁽²⁾

INTRODUCTION: Epidermal enzymes and processes that maintain skin barrier integrity and defence are optimal at acidic pH whilst enzymes involved in barrier lipid degradation have alkaline optima. Skin surface pH is therefore vital in skin barrier homeostasis, in the assessment and preservation of skin health and management of skin disorders; but this is yet to translate adequately into clinical care. Moreover, skin biophysical parameters are known to have racial variations yet very few studies document these in healthy black Africans living in Africa. Some unmet needs in the cosmetic and disease management of African skin may be addressed by better understanding of variations in skin pH.

AIM: To determine average pH of the skin of healthy Nigerians and variations with gender, age and anatomic location.

METHODS: We measured the skin surface pH in 1075 healthy Nigerian volunteers, without skin pathology, residing in Lagos, Nigeria, aged one to eighty-five years; 611 of whom were females. A scientific skin pH meter was used to take readings from the forehead and left volar forearm during the months of March to November under controlled room temperature.

RESULTS: The average skin pH was 4.87; 95% CI [4.85, 4.89]. There were statistically significant differences at different age groups and genders. The values obtained were compared with other studies on skin surface pH.

CONCLUSION: Average skin surface pH of healthy Nigerians in this study was slightly lower than what is documented in Caucasians, Asians and even Africans elsewhere, for the same anatomic locations. The variation with gender, age and anatomic locations is however similar. Exogenous factors particularly the low pH of domestic water supply may have influenced the observed data. These results should influence future studies on skin pH as well as the development of ethnically appropriate skin care and treatment products for the African skin.