Objective and subjective evaluation of skin characteristics

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Introduction: The skin biology is very complex and there are many ways to classify the different skin types. This way, it is interesting to have methods that are able to measure or quantify the skin characteristics. This is possible to be performed using clinical scores and the biophysical methods and skin imaging techniques which can evaluate objectively several skin properties in a non invasive way. **Objective:** The aim of this study was to characterize clinically the skin types by dermatological evaluation and through biophysical and skin imaging techniques, and evaluate the relationship between different characteristics. **Methods:** 26 volunteers were recruited. Clinical scoring was performed by a dermatologist, who classified the skin as normal to dry skin (Group 1) and combination and oily skin (Group 2). The objective measurements were made in terms of skin stratum corneum water content, transepidermal water loss - TEWL, pH, oiliness, and skin microrelief. The subjective analysis was done in terms of texture (roughness/smoothness), hydration, tendency to wrinkles, tendency to pigmentation, shine and oiliness. The correlation between the subjective and objective results were done using Pearson correlation test. **Results:** It was observed positive correlation between the parameters oiliness and texture obtained from instrumental analysis and clinical scoring. Several skin characteristics were different in the two groups studied. The combination and oily skin presented higher sebum secretion, TEWL and asperity according to the objective evaluation. The oily skin properties were related to more oiliness, shyness, asperity, and disrupted skin barrier function in the subjective evaluation. **Conclusions:** The biophysical and skin imaging techniques are effective tools to help characterize the skin type and assist in clinical dermatology and can be used together with clinical scoring to obtain a more detailed skin characterization. In addition, in this study we can conclude that the different skin types present different characteristics related to skin microrelief, oiliness and TEWL, and requires specific dermatological treatments.

Keywords: Skin types, clinical score, biophysical and skin imaging techniques, oily skin.