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Perspective, Opinion, Commentary

Overview of Current Research into the Assessment of Lip Health

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While lip cosmetics is a heavily researched topic, there is a lack of research in lip health. A standardized and inclusive assessment of lip health will enable practitioners to evaluate lip conditions effectively. This article serves to succintly summarize the features which current practitioners have used to assess lip health. Notable features include lip texture, dryness, erythema, and more. A standardized objective tool to grade lip health will ensure reproducibility within clinical dermatology and research.

Lip health is often overlooked in favor of cosmetics. Extensive research is dedicated to lip cosmetics because of its role in facial aesthetics and potential to restore signs of aging. However, lip health should be considered as it is integral in the prevention and management of conditions such as actinic cheilitis, drug induced cheilitis, and oral lichen planus. For clinicians to identify, grade, and treat lip conditions accurately and precisely there must be consensus on the evaluation of lip health.

This article serves as a succinct overview into the clinical features previous publications have used to assess lip health. We will explore the distinctions between the features related to lip health and those of lip cosmetics, and their overlap. Standardizing the assessment of lip health has the potential to improve clinical practice and facilitate future research with a precise method of monitoring treatment progress.

One study identified three anatomical features to create a photonumeric lip health assessment scale.[1] Researchers assessed lip shine, texture, and vermillion border (Figure 1), on a scale from 0-4. In the sample set of 103 subjects, the expert panel consisting of three board-certified dermatologists achieved 100% consensus. However, the sample set only included Fitzpatrick skin types I-III and not all skin types. Higher Fitzpatrick skin types should be the focus of future studies.

Another study identified the following bio-physical characteristics in South Asian women (Fitzpatrick skin types IV – VI) aged 20 to 50 years with the intent to track overall lip health: dryness and roughness, fine lip lines, lip texture, hydration, and barrier function.[2] Using this criterion, researchers concluded a decrease in overall lip health when comparing women in their 40s to those in their 20s.

A third study developed an objective scale to grade isotretinoin-associated cheilitis.[3] This study created the Isotretinoin Cheilitis Grading Scale (ICGS) to analyze lip health using the following features: erythema, scale/crust, fissures, and inflammation of the commissures. The ICGS had a Kendall's coefficient of concordance (KCC) of 0.88 ($p<0.0001$), when assessed by three board-certified dermatologists. An overview of these features is included in Table 1.

Lip cosmetics is a field that seeks to maintain an individual's overall youthful appearance and health of the perioral region. This section will highlight the features of the lips deemed integral to cosmetics.

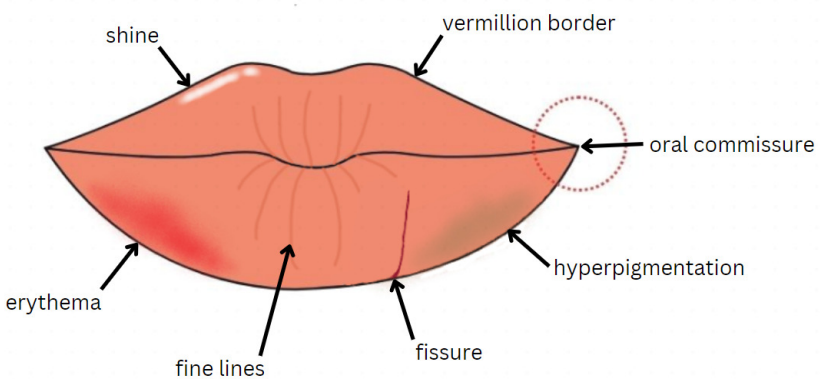

Figure 1. Diagram of the lips demonstrating some of the features involved in the assessment of lip health.

Table 1. Summary of Features Used to Assess Lip Health and Cosmetics

Clinical Feature	Draelos et al.	Subramanyam et al.	Ornelas et al.	Lip Cosmetics
Lip Shine	X			
Lip Texture	X	X		X
Lip Dryness		X		
Lip Fine Lines		X		X
Erythema			X	
Scale/ Crust			X	
Health of the Vermillion Border/ Commissures	X		X	X
Fissures			X	
Lip Fullness				X

One of the key features in lip cosmetics is lip fullness. A commonly used assessment of lip fullness is the Medicis Lip Fullness Scale (MLFS). The scale ranges from 1 (very thin) to 5 (full). Additionally, lip texture and pigmentation are also features that can be considered for lip cosmetics. In a study using hyaluronic acid (HA) filler, the following characteristics were used to assess lip cosmetics post-treatment: lip texture, lip redness, lip fullness, and increase in surface stretch.[4]

One study was done to evaluate the reliability of the following photographic scales used in cosmetic therapy: the Perioral Lines at Rest (POL), Oral Commissures (OCS), and Perioral Lines at Maximum Contraction (POLM).[5] These categories were each assessed on a 4-grade scale and had 3 representative images for each grade. Physician intrarater agreement for each scale was nearly perfect at 0.725, 0.789, and 0.826 respectively. Subject intrarater and subject/physician interrater agreement was also significant and contributed to the validation of these scales.

More research is necessary to develop an assessment tool of lip health which can be used across patient demographics. Previous features of the lip which have been used to grade lip health include lip shine, vermillion border, texture, dryness, fine lines, erythema, crust, and fissures (Table 1). Notably, hyperpigmentation was not included in the previous assessments of lip health, as this is a feature that is commonly associated with excessive sun exposure. While lip cosmetics focuses on fullness and pigmentation, texture and fine lines are relevant to both cosmetics and lip health. Development of a unified scale will allow medical practitioners to set and track treatment goals of patients. Furthermore, research will be improved with a validated tool to grade and compare lip health.

CONFLICTS OF INTEREST

RKS serves as a scientific advisor for LearnHealth, Codex Labs, and Arbonne and as a consultant to Burt's Bees, Novozymes, Nutrafol, Novartis, Bristol Myers Squibb, Abbvie, Leo, Biogena, UCB, Incyte, Pfizer, Sanofi, Novartis, Sun, and Regeneron Pharmaceuticals.

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ETHICS AND CONSENT

This research did not require IRB approval/ethical approval.

DATA AVAILABILITY STATEMENT

No new data were generated or analysed in support of this research.

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