

A comparative study of nasolabial fold depth measurements using clinical grading, photography, and ultrasound

ABSTRACT

Objective: -The present study conducted to assess and compare the comparative study of nasolabial fold depth measurements using clinical grading, photography, and ultrasound.

Methodology: A total Of 150 participants was included men and women aged 20-65 who will seek regenerative therapies to improve NLF. The sample size was determined based on power analysis, taking into account the expected effect size, the required level of statistical significance, and statistical power. Recruitment of participants was carried out through collaboration with aesthetic clinics and centers specializing in facial rejuvenation surgery. The treating investigator administered HA filler Restylane (Q-Med) to all participants in the study. The evaluations were conducted using the Modified Fitzpatrick Wrinkle Scale (MFWS), a clinical scoring system that relies on photographic scales, high-frequency ultrasound imaging, and the Modified Fitzpatrick Wrinkle Scale.

Results: A cohort of 150 participants (25 males and 125 females) with an average age of 45.1 ± 7.8 years. A notable enhancement of the Modified Fitzpatrick Wrinkle Scale in relation to the baseline was seen across all treatment indications examined after 21 days of intervention (all $p < 0.0001$). The scores for the nasolabial fold and marionette lines shown substantial improvement in comparison to the initial measurements throughout all subsequent visits ($p \leq 0.001$ for all). The average values for nasolabial folds shown a significant improvement, decreasing from an initial mean of 5.0 ± 0.5 to $2.0 \pm .05$ after 21 days. The use of soft-tissue fillers for nasolabial folds resulted in significant enhancements in collagen levels and increased density of newly formed collagen, as seen using high-frequency dermal ultrasonography. There was a notable rise in dermal density, specifically tissue echogenicity, in the nasolabial folds at all subsequent visits compared to the first measurement (all $p \leq 0.001$).

Conclusion: This research shows the first evaluation of clinical assessment/grading has easy and accurate outcome as ultrahigh frequency ultrasound (UHFUS) and photograph