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Efficacy and Safety of Avillon Diamond Dermal Fillers in Facial Rejuvenation

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Abstract

Background: Advances in medicine and increased life expectancy have intensified the demand for youthful facial appearance, driving a rise in aesthetic procedures addressing age-related wrinkles, folds, laxity, and sagging. Facial aging involves not only soft tissue but also skeletal volume loss, altering midface, perioral, and lip contours. This study evaluates the efficacy and safety of Avillon Diamond dermal fillers (Deep, Fine, Lips) for age-related facial volume and elasticity loss over six months. **Patients/Methods:** This multi-center, prospective, non-randomized clinical trial included 193 healthy female patients (>21 years) without prior minimally invasive aesthetic treatments. Avillon Diamond products were injected into various facial regions. Efficacy and safety were assessed at predefined intervals using the Medicis Midface Volume Scale (MMVS), Wrinkle Severity Rating Scale (WSRS), and Global Aesthetic Improvement Scale (GAIS). **Results:** Treatment significantly improved facial volume and contour across all facial areas. In the Deep group, severe volume loss decreased from 47.5% at baseline to 8.2% at month six. In the Fine group, mild-moderate volume loss persisted in 76% of patients at six months. In the Lips group, thin lips (55% at baseline) improved to full lip volume in 71.7% at day 14% and 56.7% at month six. Minimal, transient adverse events were observed. Patient satisfaction remained high, with sustained aesthetic outcomes over six months. **Conclusions:** Avillon Diamond hyaluronic acid fillers provide effective and safe facial rejuvenation with durable lifting and volumizing effects. High patient and physician satisfaction and a favorable safety profile support their use in aesthetic dermatology. Additional treatments may enhance long-term outcomes.

Keywords

Facial Rejuvenation, Hyaluronic Acid Fillers, Dermal Fillers, Volume

Restoration, Lifting Effect, Midface Contouring, Wrinkle Correction

1. Introduction

Advances in medicine and increased life expectancy have led to a growing demand for maintaining a youthful appearance, resulting in a rise in aesthetic procedures targeting wrinkles, skin laxity, and volume loss. Facial aging is a complex process involving both soft tissue and skeletal changes, leading to alterations in facial contours [1] [2].

Hyaluronic acid (HA)-based dermal fillers are widely used for facial rejuvenation due to their safety, reversibility, and effectiveness. These fillers restore volume, improve contour, and reduce wrinkles, making them a cornerstone of minimally invasive aesthetic treatments [2] [3].

These products—Avillon Diamond Fine, Avillon Diamond Deep, and Avillon Diamond Lips—are sterile, transparent gels composed of bacterially derived cross-linked sodium hyaluronate. The Avillon Diamond range consists of three distinct monophasic, cross-linked HA fillers—Avillon Diamond Fine, Lips, and Deep—each formulated with 20 mg/mL of cross-linked hyaluronic acid and tailored rheological properties to suit different anatomical areas and aesthetic indications. These products are intended for mid-to-deep dermal injection to correct moderate-to-severe facial wrinkles, fine lines, and folds (e.g., nasolabial folds). Each product is supplied in a sterile syringe containing 1 mL of gel and two needles (30G1/2 for Avillon Diamond Fine and Avillon Diamond Lips, 27G1/2 for Avillon Diamond Deep), sealed in a "Tyvek" blister package.

The Avillon Diamond range consists of three distinct monophasic, cross-linked HA fillers—Avillon Diamond Fine, Lips, and Deep—each formulated with 20 mg/mL of cross-linked hyaluronic acid and tailored rheological properties to suit different anatomical areas and aesthetic indications. Despite having the same HA concentration, these formulations differ in their viscoelastic profiles, providing optimized clinical performance for specific treatment goals.

- Avillon Diamond Fine is designed with a low to moderate G' (elastic modulus) and high smoothness, making it ideal for treating fine lines and superficial wrinkles in delicate areas such as the periorbital region, perioral zone, nasolabial folds, and marionette lines. Its high cohesivity ensures uniform distribution in the superficial dermis, delivering a refined, "filter-like" skin finish with natural results.
- Avillon Diamond Lips offers a balanced rheological profile, with sufficient elasticity and cohesivity to enhance lip volume, redefine the smooth perioral lines. The high cohesivity supports the gel's integration into dynamic tissue areas such as the lips, providing natural-looking fullness and shape retention during facial movement.
- Avillon Diamond Deep is formulated with a higher G' and robust cohesivity

to restore mid-face volume, correct moderate-to-deep wrinkles, and enhance contour and projection in the lower face (e.g., chin, jawline). Its structural integrity and molding capacity allow for precise shaping and long-lasting support in areas requiring definition and lift.

In comparison to other HA fillers on the market, which may vary widely in HA concentration (typically 15 - 25 mg/mL), degree of cross-linking, and cohesivity, the Avillon Diamond products demonstrate a consistent balance between elasticity, cohesivity, and tissue integration. While some biphasic fillers may exhibit high lifting capacity, they often lack the cohesivity needed for seamless tissue integration and may increase the risk of migration or palpability. In contrast, Avillon Diamond's monophasic and homogeneously cross-linked gel matrix provides superior tissue integration, minimizing the risk of lumpiness or irregular distribution, even in thin-skinned or high-mobility areas.

This study aimed to evaluate the efficacy and safety of Avillon Diamond dermal fillers (Deep, Fine, Lips) in the treatment of age-related facial volume loss and contour deficiencies over a six-month follow-up period.

2. Methods

2.1. Study Protocol

We conducted our research according to the World Medical Association Declaration of Helsinki and obtained the approval of local ethics committee (Ethical Committee approval number 2023/90048).

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request. Due to ethical and privacy restrictions, individual patient data cannot be publicly shared.

This study is a multi-center, prospective, non-randomized interventional clinical trial conducted on consecutive healthy patients who applied to the clinic for facial rejuvenation procedures.

The study was carried out in accordance with the principles of the Declaration of Helsinki and the Good Clinical Practice/International Council for Harmonisation (ICH) Guidelines. The study protocol was approved by an independent ethics committee, and written informed consent was obtained from all participants.

Patients were treated with 1 - 4 mL of Avillon Diamond fillers, with an optional touch-up (≤1 mL) performed two weeks after the initial treatment. Each patient received a single product per treatment area.

Efficacy was assessed using the Medicis Midface Volume Scale (MMVS), Wrinkle Severity Rating Scale (WSRS), Lip Fullness Grading Scale (LFGS), and Global Aesthetic Improvement Scale (GAIS). Safety was evaluated based on reported adverse events.

Assessments were performed at baseline, Day 0, Week 2, Month 1, Month 3, and Month 6.

No AI software was used for the preparation of this manuscript. All compo-

nents—including data collection, data analysis, writing, and editing—were performed manually by the authors.

2.2. Patients

The study sample included healthy women over the age of 21 who had not previously undergone any minimally invasive aesthetic procedures and had applied to the clinic for facial rejuvenation treatment.

The following individuals were excluded from the study:

- Patients with previous filler procedures
- Pregnant or breastfeeding women, as well as those with childbearing potential who were not using adequate contraception or planning to conceive during the study.
- Individuals with pre-existing dermatological disorders were excluded from participation
- Patients who had previously undergone permanent (non-biodegradable) or semi-permanent facial augmentation therapy, including autologous fat transfer, below the infraorbital frame.
- Patients who had received tissue rejuvenation treatments, such as laser or light-based therapies, mesotherapy, radiofrequency, chemical peeling, or dermabrasion in the midface region within six months prior to the study.
- Patients with a history of delayed wound healing, hypertrophic scars, keloids, or any other wound healing disorders within the past year.
- Individuals with severe systemic diseases, including bleeding disorders, uncontrolled systemic hypertension, or systemic autoimmune diseases (e.g., systemic lupus erythematosus, Sjögren's syndrome, scleroderma, vasculitis, Behçet's disease).
- Patients with allergies to any of the filler components.

3. Statistical Analysis

SPSS v.21 (SPSS Inc., Chicago, IL, USA) was used for statistical analysis. Since most of the data collected in the study were based on ordinal scales and did not satisfy the assumptions required for parametric testing, non-parametric statistical methods were employed. The Friedman test was used to compare repeated measures from the same individuals at different time points—for example, in parameters such as IGAIS, lifting effect, volume effect, physician satisfaction, and physician experience.

To compare physician and patient groups in terms of GAIS and satisfaction scores, the Mann-Whitney U test was applied. In conjunction with the Mann-Whitney analysis, the Wilcoxon W statistic was reported as part of the output, though it was not treated as a separate test.

All analyses were conducted on a complete dataset, with no missing data observed. The absence of missing values ensured that each parameter could be evaluated with full statistical reliability.

4. Injection Techniques and Procedural Details

In this study, injection techniques were selected in accordance with the anatomical characteristics of the treatment areas and the rheological properties of the respective Avillon Diamond fillers. Each product—Deep, Fine, and Lips—was applied using either needle or cannula techniques, depending on the region.

Cannula application was performed exclusively in the infraorbital (tear trough) and nasolabial regions. A 27-gauge cannula was used for the periorbital (infraorbital) area to minimize the risk of vascular complications and ensure smooth distribution in this delicate zone. In the nasolabial folds, a 25-gauge cannula was preferred due to the need for deep volumization with controlled tissue integration. For all other facial regions, injections were carried out using needles provided with the product: 30G1/2 needles for Avillon Diamond Fine and Lips, and 27G1/2 needles for Avillon Diamond Deep.

Injection Depths:

- Avillon Diamond Deep was injected into the deep dermis to subcutaneous plane for areas such as the chin, nasolabial folds, and anteromedial cheek. In the zygomatic region, injections were placed at the supraperiosteal level to achieve structural support and lifting.
- Avillon Diamond Fine was administered into the mid-to-deep dermis in areas such as the perioral region, marionette lines, and tear trough.
- Avillon Diamond Lips was injected into the mid-to-deep dermis to enhance lip volume and define contours.

Average Volume per Injection Point:

Injection volumes varied based on the anatomical region and aesthetic needs:

- Zygomatic region (Deep): Average 1.5 mL (range 1 - 3 mL), distributed across 4 - 6 points; approximately 0.25 - 0.5 mL per point.
- Nasolabial folds (Deep): Average 1 mL (range 0.1 - 3 mL), typically across 3 - 5 points; approximately 0.2 - 0.3 mL per point.
- Chin (Deep): Average 1.5 mL (range 0.1 - 3 mL), usually across 3 points; approximately 0.5 mL per point.
- Anteromedial cheek (Deep): Average 2.5 mL (range 1 - 3 mL), across 4 - 5 points; approximately 0.5 - 0.6 mL per point.
- Perioral region (Fine): Average 1 mL (range 0.1 - 2 mL), across 4 - 6 points; approximately 0.2 - 0.25 mL per point.
- Marionette lines (Fine): Average 1 mL (range 0.1 - 2 mL), across 2 - 4 points; approximately 0.25 - 0.5 mL per point.
- Tear trough (Fine): Average 1 mL bilaterally; 0.5 mL per side via a single-entry cannula technique.
- Lips (Lips): Fixed 1 mL per session; typically across 4 - 6 points using linear retrograde and depot techniques; approximately 0.15 - 0.25 mL per point.

5. Results

A total of 193 female patients from two different centers were included in the

study. Out of a total of 193 patients included in the study, 15 (7.8%) were classified as Fitzpatrick skin type 2, 12 (6.2%) as Fitzpatrick skin type 4, and the remaining majority, 166 patients (86.0%), were categorized as Fitzpatrick skin type 3. Among them, 61 patients were treated with Avillon Diamond Deep, 72 patients with Avillon Diamond Fine, and 60 patients with Avillon Diamond Lips. The mean age of patients in the Deep group was 39, while it was 45 in the Fine group and **32** in the Lips group (Table 1).

Table 1. Mean age of patients in different treatment groups.

Treatment Group	N	Minimum Age	Maximum Age	Mean Age	Standard Deviation
Deep	61	21	65	39	9.82
Fine	72	27	64	45	8.60
Lips	60	21	55	32	7.89
Total	193	20	65	38	8.77

Volunteers were treated to achieve a clinically significant improvement in facial appearance using 1 - 4 ml of Avillon Diamond products. Midface regions (zygomatic region, anteromedial cheek, submalar region), perioral regions (perioral lines), lips and infraorbital region, at least one region from midface regions and one region from perioral regions and lips were included. The amount of filler applied according to the regions is given in Table 2.

Table 2. Average amount of filling according to the applied areas.

	Implemented Region	Number of Patients	Quantity used (average, min/max)
Deep	Zygomatic	23	1.5 mL (1 mL - 3 mL)
	Nasolabial Folds	22	1 mL (0.1 mL - 3 mL)
	Chin	12	1.5 mL (0.1 mL - 3 mL)
	Anteromedial Cheek	4	2.5 mL (1 mL - 3 mL)
Fine	Perioral	35	1 mL (0.1 mL - 2 mL)
	Marionette Lines	19	1 mL (0.1 mL - 2 mL)
	Tear Trough	18	1 mL (0.1 mL - 2 mL)
Lips	Lips	60	1 mL

5.1. Avillon Diamond Deep Results

The Avillon Diamond Deep filler was applied to different facial areas in 61 patients. The distribution of treated areas is as follows (See Table 3):

- Zygomatic region: 23 patients (37.7%)
- Nasolabial folds: 22 patients (36.06%)
- Chin: 12 patients (19.67%)

- Anteromedial cheek: 4 patients (6.57%)

A significant improvement in Midface Volume Loss Scores was observed at Day 14, Month 1, Month 3, and Month 6, compared to baseline (Table 4).

Table 3. Age distribution of patients treated with Avillon Diamond Deep.

Treated Region	Age 20 - 30	Age 31 - 40	Age > 41	Mean Age (Min - Max)
Zygomatic	6	11	6	38 (**24 - 65**)
Nasolabial Folds	11	11	0	43 (**33 - 64**)
Chin	4	4	4	36 (**20 - 55**)
Anteromedial Cheek	3	1	0	32 (**27 - 36**)

Table 4. Midface Volume Loss Measures (MMVS) distribution for Avillon Diamond Deep Fillers.

	Baseline		14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 0: No Volume Loss	4	6.6	15	24.6	15	24.6	6	9.8	0	0
Grade 1: Slight Volume Loss	0	0	38	62.3	36	59.0	42	68.9	26	42.6
Grade 2: Moderate Volume Loss	28	45.9	8	13.1	10	16.4	13	21.3	30	49.2
Grade 3: Severe Volume Loss	29	47.5	0	0	0	0	0	0	5	8.2
Grade 4: Very Serious Collapse	0	0	0	0	0	0	0	0	0	0
Total	61	100.0	61	100.0	61	100.0	61	100.0	61	100.0

A statistically significant improvement in midface volume was observed following treatment with Avillon Diamond Deep, as demonstrated by the distribution of Midface Volume Loss Scale (MMVS) scores over time. At baseline, 47.5% of patients were classified as having Grade 3 severe volume loss, while only 6.6% presented with no volume loss (Grade 0). By Day 14, the proportion of patients with Grade 1 slight volume loss increased dramatically to 62.3%, while Grade 3 dropped to 0%, indicating a rapid early response.

This trend was sustained throughout the follow-up period. Although some degree of physiological resorption was observed by Month 6—reflected by a moderate increase in Grade 2 (49.2%) and Grade 3 (8.2%)—the data still revealed a significant long-term improvement compared to baseline, with no patients remaining in Grade 4 at any point.

The initial 6.6% of patients with no volume loss (Grade 0) rose to 24.6% by Day 14 and Month 1, reflecting strong short-term volumization. Although this percentage declined slightly by Month 3 (9.8%) and disappeared entirely by Month 6, the sustained dominance of Grade 1 and 2 scores indicates effective and clini-

cally meaningful volume restoration over the six-month period.

These improvements were supported by statistical analysis, confirming that the shift in MMVS scores from baseline to all subsequent time points was significant ($p < 0.001$, Friedman test).

A significant improvement was observed on the Wrinkle Severity Rating Scale at day 14, month 1, month 3 and month 6 compared to baseline (Table 5).

Table 5. Wrinkle Severity Rating Scale (WSRS) rates for patients treated with Avillon Diamond Deep.

	Baseline		14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 1: No wrinkles visible	0	0	36	59.0	34	55.7	36	59.0	15	24.6
Grade 2: Very mild wrinkles, barely noticeable	8	13.1	18	29.5	20	32.8	22	36.1	37	60.7
Grade 3: Moderate wrinkles, clearly visible	26	42.6	0	0	0	0	0	0	9	14.8
Grade 4: Deep wrinkles, prominent	12	19.6	0	0	0	0	0	0	0	0
Grade 5: Very deep wrinkles, severely affect facial appearance	2	3.2	0	0	0	0	0	0	0	0
Non Applicable	13	21.3	7	11.5	7	11.5	3	4.9	0	0
Total	61	100.0	61	100.0	61	100.0	61	100.0	61	100.0

A marked improvement in wrinkle severity was observed in patients treated with Avillon Diamond Deep, as reflected in the Wrinkle Severity Rating Scale (WSRS) scores over time. At baseline, none of the patients were classified in Grade 1 (no wrinkles visible), while 42.6% exhibited Grade 3 (moderate wrinkles), 19.6% had Grade 4 (deep wrinkles), and 3.2% showed Grade 5 (very deep wrinkles)—demonstrating a significant wrinkle burden at the start of treatment.

By Day 14, a dramatic shift was seen: 59.0% of patients reached Grade 1, and Grade 3 and above had completely resolved. This pattern persisted through Month 1 and Month 3, with Grade 1 percentages remaining above 55%, and the majority of the remaining patients classified as Grade 2 (very mild wrinkles). Notably, no patients were categorized in Grade 4 or 5 after treatment, indicating a complete resolution of severe wrinkling across all time points.

At Month 6, although the proportion of patients in Grade 1 decreased to 24.6%, Grade 2 increased to 60.7%, showing a slight softening of the initial outcome over time—consistent with natural hyaluronic acid degradation—yet still representing a significant and sustained improvement from baseline. Only 9 patients (14.8%) returned to Grade 3, and none reverted to Grades 4 or 5.

This temporal distribution indicates that Avillon Diamond Deep provided a rapid and clinically meaningful reduction in wrinkle severity, with effects remaining statistically and clinically significant over a six-month period. Statistical analysis using the Friedman test confirmed a highly significant change in WSRS scores

across all time points ($p < 0.001$), supporting the long-term effectiveness of the product in wrinkle correction.

The non-parametric Friedman Test statistic was calculated to evaluate the differences in the rating percentages regarding the lifting effect of Avillon Diamond products.

According to the results, it was seen that there was no difference at 95% confidence level in terms of the rating percentages regarding the lifting effect of Avillon Diamond Deep products according to months, which was considered to be a very high rate (Chi-square = 7.2, $p = 0.126 > 0.05$) (Table 6).

Table 6. Ratios regarding the lifting effect of Avillon Diamond Deep products.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 1 (Very)	0	0	0	0	0	0	0	0
Grade 2 (Mild lifting)	0	0	0	0	0	0	0	0
Grade 3 (Moderate)	0	0	0	0	3	4.9	6	9.8
Grade 4 (Noticeable)	59	96.7	60	98.4	57	93.4	53	86.9
Grade 5 (The most significant)	2	3.3	1	1.6	1	1.6	2	3.3
Total	61	100.0	61	100.0	61	100.0	61	100.0

The lifting effect achieved with Avillon Diamond Deep was evaluated at multiple time points and demonstrated high and consistent efficacy throughout the six-month follow-up period. At Day 14, 96.7% of patients were rated as having a "noticeable" lifting effect (Grade 4), and 3.3% achieved the "most significant" effect (Grade 5). This strong response continued at Month 1, with 98.4% of patients in Grade 4 or above.

Although there was a slight numerical decline at Month 3 (93.4%) and Month 6 (86.9%), the vast majority of patients still maintained a noticeable lifting effect. A gradual increase in Grade 3 (moderate) ratings was observed—rising from 0% at earlier time points to 4.9% at Month 3 and 9.8% at Month 6—suggesting mild softening of the initial result over time.

Importantly, no patients were ever classified in Grades 1 or 2, indicating that all participants experienced at least a moderate lifting effect during the entire study period.

Despite these numerical fluctuations, statistical analysis using the Friedman test showed no significant difference across time points (Chi-square = 7.2, $p = 0.126$), suggesting that the lifting effect was not only strong but also stable over six months.

The percentages of score values for the volume effect of Avillon Diamond Deep were the same for all months. On the fourteenth day, 1st month, 3rd month, and 6th month, the changes in the assessment of the volume effect of Avillon Diamond Deep by physicians over time were compared. The results showed that there was no difference at 95% confidence level between 14th day, 1st month, 3rd month

and 6th month (p = 0.492 > 0.05, Chi-squares = 3407). The results are summarized in Table 7.

Table 7. Ratios of Avillon Diamond Deep products on volume effect.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 1(Very)	0	0	0	0	0	0	0	0
Grade 2 (Mild)	0	0	0	0	0	0	0	0
Grade 3 (Moderate)	0	0	0	0	3	4.9	2	3.3
Grade 4 (Noticeable)	59	96.7	60	98.4	57	93.4	57	93.4
Grade 5 (The most significant)	2	3.3	1	1.6	1	1.6	2	3.3
Total	61	100.0	61	100.0	61	100.0	61	100.0

Volume enhancement achieved with Avillon Diamond Deep was consistently rated as effective throughout the six-month follow-up. At Day 14, 96.7% of patients were rated as having a "noticeable" volume effect (Grade 4), and 3.3% were rated as "most significant" (Grade 5). These proportions remained nearly identical at Month 1, with 98.4% in Grade 4 or above.

By Month 3, there was a slight shift, with 4.9% of patients rated as Grade 3 (moderate effect) and 1.6% in Grade 5. At Month 6, this distribution remained stable: 93.4% of patients maintained a noticeable or greater volume effect, with minimal increase in moderate ratings (3.3%).

Notably, no patients were rated in Grades 1 or 2 (very mild or mild volume effect) at any time point, indicating that all patients experienced at least a moderate volumizing outcome throughout the study.

Despite slight numerical changes over time, Friedman test analysis revealed no statistically significant difference in physician-rated volume effect across all time points (Chi-square = 3.407, p = 0.492). These findings confirm that Avillon Diamond Deep delivers a durable volumizing effect, which remains clinically and statistically stable for at least six months following treatment.

Non-parametric Friedman test statistics were performed to compare physician satisfaction at 14th day, 1st month, 3rd month and 6th month. No statistically significant difference was found between the 14th day, 1st month, 3rd month and 6th month in terms of physician satisfaction at 95% confidence level (p = 0.138 > 0.05, Chi-Squares = 13,167). The results are given in the Figure 1.

There is no statistically significant difference at the 95% confidence level between day 14, month 1, month 3 and month 6 in terms of physician experience (p = 0.138 > 0.05). The results are given in Figure 2.

No significant difference was observed on the Investigator Improvement Global Aesthetic Scale (I-IGAS) at 14 days, 1 month and 3 months. 95% of the results at 6 months were defined as "good" and "very good". No significant difference was

observed in the Patient Improvement Global Aesthetic Scale (P-IGAS) at 14 days, 1 month, 3 months and 6 months. There is a statistically significant difference between the patient and physician groups in terms of GAIS scores at month 6 with 95% reliability (0.000 < 0.05). There is no significant difference between the patient and physician groups at day 14, month 1 and month 3. The results are given in Figure 3.

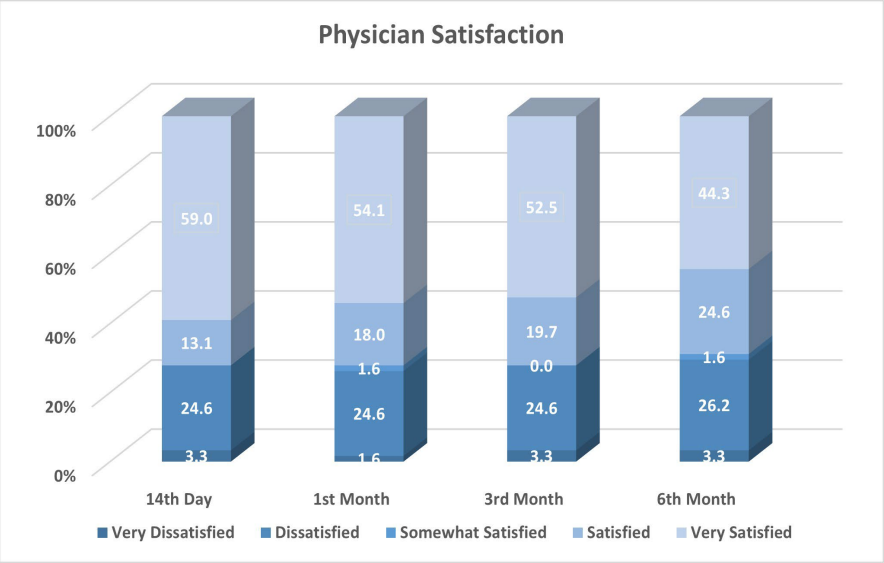

Figure 1. Avilion diamond deep physician satisfaction.

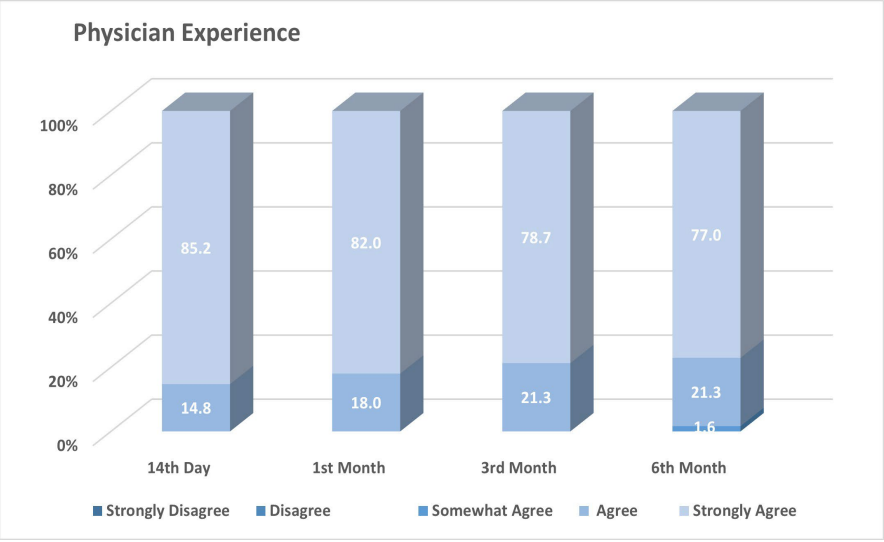

Figure 2. Avilion diamond deep physician experience result.

The most common side effects were redness (n = 61), bleeding (n = 18) and needle mark (n = 20). These side effects occurred on the first day of administration and completely resolved within two days. No serious side effects were observed and no long-term side effects were encountered.

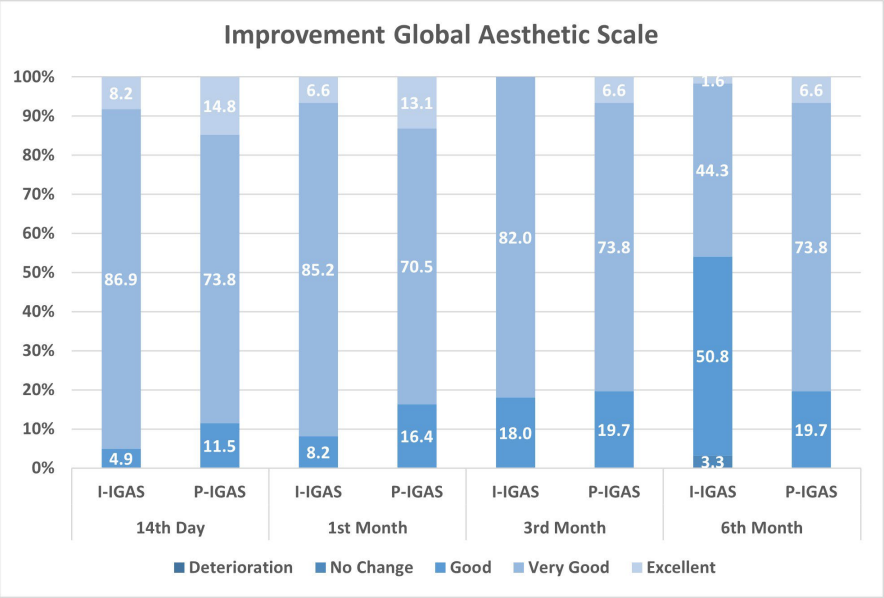

Figure 3. Avilion Diamond Deep I-IGAS and P-IGAS results.

5.2. Avillon Diamond Fine Results

A total of 72 patients received Avillon Diamond Fine injections. The distribution of treatment areas was as follows (See Table 8):

- Perioral area: 35 patients (48.61%)
- Tear trough (infraorbital region): 18 patients (25%)
- Marionette lines: 19 patients (26.39%)

A significant improvement in Midface Volume Loss Scale (MMVS) scores was observed at Day 14, Month 1, and Month 3 compared to baseline. At Month 6, 76% of patients were classified as having mild to moderate volume loss (Table 9).

Table 8. Age distribution of patients treated with Avillon Diamond Fine.

Treated Region	Age 21 - 30	Age 31 - 40	Age > 41	Mean Age (Min - Max)
Perioral	0	6	29	48 (**32 - 57**)
Marionette Lines	0	6	13	47 (**32 - 64**)
Tear Trough	2	12	4	37 (**27 - 52**)
Total	**2**	**24**	**46**	-

Table 9. Midface Volume Loss Scale (MMVS) after Avillon Diamond Fine treatment.

	Baseline		14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Frequency	Percentage	Frequency	Percentage	Frequency
Grade 0: No Volume Loss	0	0	36	48.6	35	47.3	27	36.5	8	10.8
Grade 1: Slight Volume Loss	0	0	26	37.8	27	39.2	26	37.8	29	41.9
Grade 2: Moderate Volume Loss	19	25.7	3	4.1	3	4.1	11	14.9	26	35.1

Continued

Grade 3: Severe Volume Loss	38	51.4	0	0	0	0	1	1.4	2	2.7
Grade 4: Very Serious Collapse	10	13.5	0	0	0	0	0	0	0	0
Non Applicable	5	9.5	7	9.5	7	9.5	7	9.5	7	9.5
Total	72	100.0	72	100.0	72	100.0	72	100.0	72	100.0

Treatment with Avillon Diamond Fine resulted in significant improvement in midface volume loss scores over time. At baseline, a substantial portion of patients were classified in the higher severity categories, with 51.4% showing Grade 3 (severe volume loss) and 13.5% showing Grade 4 (very serious collapse). No patients were classified as Grade 0 or Grade 1 at baseline.

By Day 14, the shift was dramatic: 48.6% of patients exhibited no volume loss (Grade 0) and 37.8% were rated as having only slight loss (Grade 1). Severe and very serious cases (Grades 3 and 4) had completely resolved, underscoring the early efficacy of the product. These favorable distributions were largely maintained through Month 1 and Month 3.

At Month 6, while some degree of volume regression was noted, 41.9% of patients remained in Grade 1, and 35.1% in Grade 2, reflecting that over 75% of patients still demonstrated only mild-to-moderate volume loss. Only 2 patients (2.7%) were rated as Grade 3 at Month 6, and no patients were classified in Grade 4, confirming the long-term retention of therapeutic effect in the majority of participants.

A Friedman test was conducted to evaluate the significance of changes in MMVS scores across time points. The results demonstrated a statistically significant difference between baseline and follow-up evaluations ($p < 0.001$), confirming the sustained volume restoration effect of Avillon Diamond Fine over six months.

The non-parametric Friedman test was used to see whether there was a difference in the rating percentages regarding the lifting effect of the Avillon Diamond Fine product.

According to the results given below, there was a difference at 95% confidence level between Day 14, Month 1, Month 3 and Month 6 (Chi-squares = 51.06, $p = 0.000 < 0.05$). At the 6th month, 77.78% of the patients had a "modarete" lifting effect (Table 10).

Lifting effect scores following Avillon Diamond Fine treatment revealed a strong and sustained aesthetic response, particularly in the early and mid-follow-up periods. At Day 14, the vast majority of patients (87.5%) were rated as having a moderate lifting effect (Grade 3), while an additional 5.56% were rated in Grade 4 (noticeable) and 1.39% in Grade 5 (most significant). Only a small portion (5.56%) were rated as having mild lifting (Grade 2), and no patients were rated below this level.

Table 10. Lifting effect evaluation of Avillon Diamond Fine.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Frequency	Frequency	Percentage	Frequency	Frequency
Grade 1 (Very mild)	0	0	0	0	0	0	0	0
Grade 2 (Mild lifting)	4	5.56	4	5.56	4	5.56	14	19.44
Grade 3 (Moderate)	63	87.5	64	88.89	64	88.89	56	77.78
Grade 4 (Noticeable)	4	5.56	4	5.56	4	5.56	2	2.78
Grade 5 (The most significant)	1	1.39	0	0	0	0	0	0
Total	72	100.0	72	100.0	72	100.0	72	100.0

This distribution remained nearly identical at Month 1 and Month 3, confirming the consistency and stability of the lifting effect up to the third month. At Month 6, a mild decline was observed: the proportion of patients with Grade 3 ratings decreased to 77.78%, and Grade 2 (mild lifting) increased to 19.44%, suggesting partial regression likely due to physiological filler degradation.

Notably, no patients were rated as Grade 1 (very mild lifting) at any time point, indicating that all participants experienced at least a mild to moderate lifting response throughout the study.

Statistical analysis using the non-parametric Friedman test revealed a significant difference in lifting effect scores across the four time points (Chi-square = 51.06, $p < 0.001$), indicating that while the lifting effect was initially strong and sustained, a statistically significant decrease was evident by Month 6.

A non-parametric Friedman test statistic was calculated to compare whether there was a difference in the rating of the volume effect of Avillon Diamond Fine by physicians. According to the results given below, there was no difference between 14th day, 1st month, 3rd month and 6th month at 95% confidence level, the volume effect continues to be effective at the end of the 6th month. ($p = 0.0526 > 0.05$) (**Table 11**).

Table 11. Ratios of Avillon Diamond Fine products for volume effect.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Frequency	Frequency	Percentage	Frequency	Frequency
Grade 1 (Very mild)	0	0	0	0	0	0	0	0
Grade 2 (Mild)	0	0	0	0	1	1.39	3	4.17
Grade 3 (Moderate)	63	87.5	62	86.11	62	86.11	66	91.67
Grade 4 (Noticeable)	6	8.33	8	11.11	7	9.72	3	4.17
Grade 5 (The most significant)	3	4.17	2	2.78	2	2.78	0	0
Total	72	100.0	72	100.0	72	100.0	72	100.0

Volume augmentation following Avillon Diamond Fine injection showed consistent and favorable outcomes throughout the six-month follow-up. On Day 14,

87.5% of patients were rated as having a moderate volume effect (Grade 3), while 8.33% experienced a noticeable effect (Grade 4) and 4.17% were rated as having the most significant volume increase (Grade 5). Importantly, no patients were rated as Grade 1 or 2, indicating that all participants achieved at least a moderate volumizing outcome in the immediate post-treatment period.

This distribution remained remarkably stable at Month 1 and Month 3, with Grade 3 ratings consistently above 86%. However, by Month 6, a slight shift was observed: Grade 3 ratings rose to 91.67%, while Grade 4 and 5 ratings declined to 4.17% and 0%, respectively. Additionally, a small increase was seen in Grade 2 (mild effect), rising to 4.17%, reflecting the expected physiological degradation of hyaluronic acid over time.

Despite these small numerical changes, the volume effect was clinically well maintained, with over 95% of patients still presenting with moderate or better results at six months.

Statistical analysis using the Friedman test revealed no statistically significant difference in physician-rated volume effect across the four time points (Chi-square = 7.72, $p = 0.0526 > 0.05$), supporting the interpretation that volume enhancement with Avillon Diamond Fine was durable and stable during the follow-up period.

There is a difference between 14th day, 3rd month and 6th month in terms of physician satisfaction at 95% confidence level ($p = 0.00 < 0.05$).There is no difference between 14th day and 3rd month ($p = 0.782 > 0.05$).There is a difference between 14th day and 6th month ($p = 0.00 < 0.05$).There is a difference between 3rd month and 6th month ($p = 0.00 < 0.05$). At month 6, 72.2% stated that they were "satisfied" (See Figure 4).

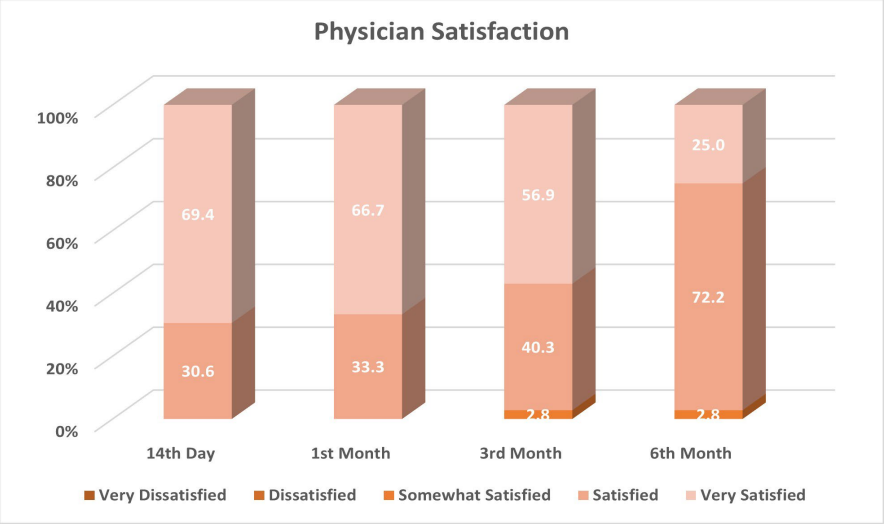

Figure 4. Avillon diamond fine physician satisfaction.

A non-parametric Friedman test was performed to compare the physician experience of Avillon Diamond products at 14 days, 1 month, 3 months and 6

months and the Chi-square test value was 32.37. It can be said that there is a slight difference in terms of experience ($p = 0.000 < 0.05$). There is a difference between 14th day and 6th month ($p = 0.00 < 0.05$). There is no difference between 3rd month and 6th month in terms of experience ($p = 0.452 > 0.05$). Experience is generally at the level of "agree" and "strongly agree". The results are given in Figure 5.

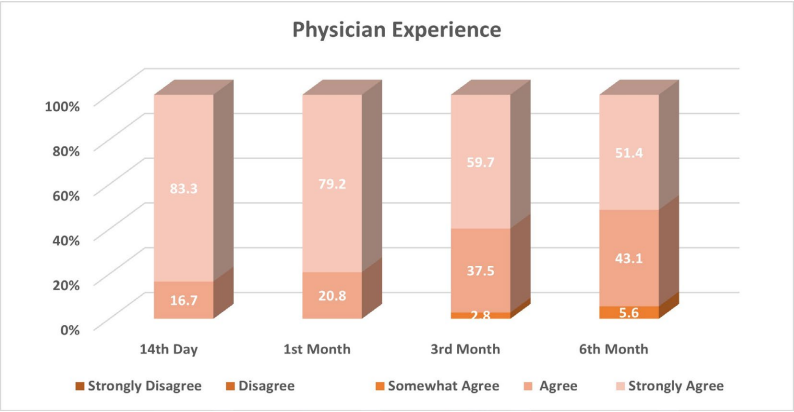

Figure 5. Avillon diamond fine physician experience.

The non-parametric Friedman test statistic was calculated to compare the I-GAIS scores and the Chi-squares value was found to be 91.235. As a result of the hypothesis test, a difference was found between 3rd and 6th months in terms of IGAIS values at 95% confidence level ($p = 0.000 > 0.05$). The global aesthetic improvement score (I-GAIS) evaluated by physicians did not change from day 14 to month 3 and was evaluated as "very good". There is a significant difference between 6th and 14th day, 1st month and 3rd month. Month 6 I-GAIS results were evaluated as "good" and "very good".

No significant difference was observed in Patient Improvement Global Aesthetic Scale (P-IGAS) values at day 14, month 1, month 3 and month 6 (See Figure 6).

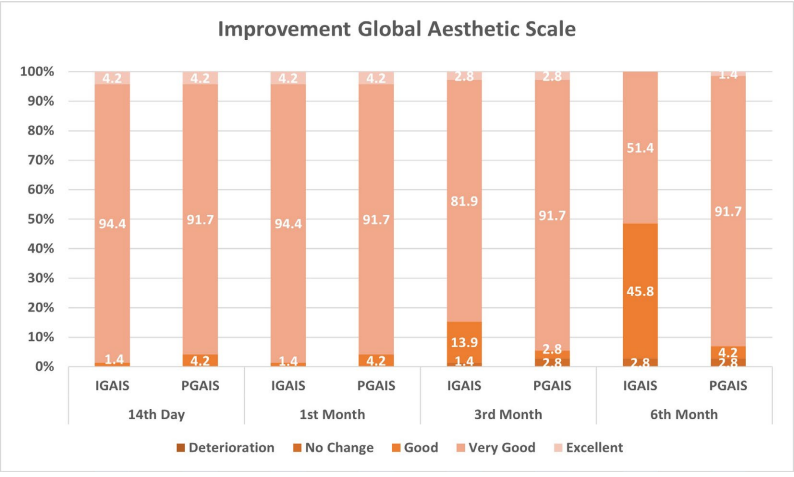

Figure 6. Investigator Improvement Global Aesthetic Scale (GAIS) ratios used for Avillon Diamond Fine applications.

There is a difference between the patient and physician groups in terms of GAIS scores at 14th day, 1st month, 3rd month and 6th month ($p = 0.00 < 0.05$). Patients had higher GAIS scores.

The most common side effects of Fine Avillon Diamond application were needle scarring (n = 17), bleeding (n = 20), pain (n = 6) and bruising (n = 4). These side effects occurred on the first day of application and completely resolved within an average of 3 days. No serious side effects were observed and no long-term side effects were encountered.

5.3. Avillon Diamond Lips Results

Avillon Diamond Lips were applied to 60 randomly selected female patients. The age distribution of the patients who underwent Avillon Diamond Lips is as follows (Table 12).

Table 12. Age distribution according to Avillon Diamond Lips applied areas.

	Unknown	21 - 30 age	31 - 40 age	>41 age	Mean (Min - Max)
Lips	4	28	22	6	32 (21 - 55)

A significant improvement in Lip Fullness Scores was observed at Day 14, Month 1, Month 3, and Month 6 compared to baseline (Table 13).

Table 13. Lip Fullness Grading Scale (LFGS) after Avillon Diamond Lips treatment.

	Baseline		14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Frequency	Percentage	Frequency	Percentage	Frequency
Grade 0 (Very thin)	8	13.3	0	0	0	0	0	0	0	0
Grade 1 (Thin)	33	55.0	0	0	0	0	0	0	2	3.3
Grade 2 (Medium Thickness)	18	30.0	13	21.67	13	21.7	17	28.3	24	40.0
Grade 3 (Thick)	1	1.7	43	71.67	44	73.3	41	68.3	34	56.7
Grade 4 (Full)	0	0	4	6.67	3	5	2	3.3	0	0
Total	60	100.0	60	100.0	60	100.0	60	100.0	60	100.0

Treatment with Avillon Diamond Lips resulted in a marked and rapid improvement in lip volume, as evidenced by the Lip Fullness Grading Scale (LFGS). At baseline, the majority of patients (55%) were classified as having thin lips (Grade 1), while 13.3% were categorized as very thin (Grade 0). Only 1 patient (1.7%) was graded as having thick lips (Grade 3), and none had full lips (Grade 4), indicating a clear need for volume enhancement.

By Day 14, the lip fullness profile had shifted dramatically: 71.67% of patients were classified as Grade 3 (thick), and 6.67% achieved Grade 4 (full). This effect was sustained at Month 1, with 73.3% in Grade 3 and 5% in Grade 4, showing a strong early volumizing response.

At Month 3, slight softening was observed, with Grade 3 ratings decreasing to 68.3% and Grade 2 (medium thickness) increasing to 28.3%. By Month 6, further physiological regression was noted: 56.7% remained in Grade 3, 40% in Grade 2, and a small proportion (3.3%) returned to Grade 1 (thin lips). Notably, no patients reverted to Grade 0, and none were rated as full lips (Grade 4) by Month 6, indicating a gradual, expected decline in maximal augmentation effect over time.

Despite this decrease, 96.7% of patients retained medium to thick lips (Grades 2 - 3) at six months, confirming the durability of aesthetic improvement. These findings illustrate that Avillon Diamond Lips offers a clinically effective and sustained volumizing benefit, with peak effect observed in the first month and satisfactory persistence through the sixth month.

The non-parametric Friedman test was used to compare the difference between the doctors' evaluations of the lifting effect of Avillon Diamond Lips products. According to the statistical results, there was no difference in the percentage evaluations of the lifting effect of Avillon Diamond Lips products between 14th day, 1st month, 3rd month and 6th month at 95% confidence level ($p = 0.057 > 0.05$). The results are shown in Table 14.

Table 14. Ratios regarding the lifting effect of Avillon Diamond Lips products.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 1 (Very mild)	0	0	0	0	0	0	0	0
Grade 2 (Mild lifting)	0	0	0	0	0	0	4	6.7
Grade 3 (Moderate)	56	93.3	56	93.3	57	95.0	54	90
Grade 4 (Noticeable)	4	6.7	4	6.7	3	5.0	2	3.3
Grade 5 (The most significant)	0	0	0	0	0	0	0	0
Total	60	100.0	60	100.0	60	100.0	60	100.0

The lifting effect observed after treatment with Avillon Diamond Lips was generally consistent and favorable across the study period. At Day 14 and Month 1, the vast majority of patients (93.3%) were rated as having a moderate lifting effect (Grade 3), while a small percentage (6.7%) experienced a noticeable effect (Grade 4). These distributions indicate a strong initial response in terms of contour definition and structural enhancement of the lips.

At Month 3, the positive trend was sustained, with 95% of patients maintaining a moderate lifting effect, and 5% in Grade 4. However, by Month 6, a slight decrease was observed: 90% remained in Grade 3, 3.3% in Grade 4, and 6.7% of patients shifted to Grade 2 (mild lifting). Importantly, no patients were rated as Grade 1 (very mild) or Grade 5 (most significant) at any time point.

While these changes suggest a modest decline in lifting intensity by Month 6, the overall lifting response remained clinically effective, with the vast majority of patients (over 96%) experiencing at least moderate improvement throughout the

follow-up.

Statistical analysis using the non-parametric Friedman test showed that the variation across time points was not statistically significant ($p = 0.057 > 0.05$), indicating that the lifting effect of Avillon Diamond Lips remained relatively stable and durable during the six-month evaluation period.

The non-parametric Friedman test was used to compare whether there was a difference in the rating of the volume effect of Avillon Diamond Lips products by physicians. According to the results given below, there was a difference at 95% confidence level ($p = 0.000 < 0.05$, chi-squares = 31.75). While there were no differences between day 14, month 1 and month 3 ($p = 1.0 > 0.05$), there were differences between day 14 and month 6 ($p = 0.019 < 0.05$) and between month 3 and month 6 ($p = 0.028 < 0.05$). When these differences are evaluated, the expected effect continues.

Volume augmentation achieved with Avillon Diamond Lips showed a strong early effect and a measurable decline by Month 6, in line with expected hyaluronic acid resorption patterns. At Day 14, 85% of patients exhibited a noticeable volume increase (Grade 4), and 13.3% were rated as having a moderate effect (Grade 3). Only one patient (1.7%) achieved the most significant augmentation (Grade 5). This distribution remained virtually unchanged at Month 1 and Month 3, indicating excellent volume retention during the first three months post-treatment.

However, by Month 6, a clear shift was observed: the proportion of patients in Grade 4 decreased from 86.7% to 51.7%, while those in Grade 3 increased significantly to 46.7%. The Grade 5 response remained low and stable (1.7%), and no patients were ever classified in Grades 1 or 2 (very mild or mild volume effect) throughout the study (See Table 15).

Table 15. Ratios of Avillon Diamond Lips products on volume effect.

	14th day		1st month		3rd month		6th month	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Grade 1 (Very mild)	0	0	0	0	0	0	0	0
Grade 2 (Mild)	0	0	0	0	0	0	0	0
Grade 3 (Moderate)	8	13.3	8	13.3	8	13.3	28	46.7
Grade 4 (Noticeable)	51	85.0	52	86.7	52	86.7	31	51.7
Grade 5 (The most significant)	1	1.7	0	0	0	0	1	1.7
Total	60	100.0	60	100.0	60	100.0	60	100.0

This shift reflects a gradual reduction in peak volume consistent with physiological degradation of filler material, yet the fact that all patients remained within moderate or higher categories indicates continued clinical benefit.

Statistical analysis using the Friedman test confirmed that the changes over time were statistically significant (Chi-square = 31.75, $p < 0.001$). Pairwise comparisons revealed that while there was no significant difference between Day 14,

Month 1, and Month 3 (p = 1.0), significant differences emerged between Day 14 and Month 6 (p = 0.019) and between Month 3 and Month 6 (p = 0.028). These findings support the interpretation that volume effects peak within the first 1 - 3 months and begin to decline gradually by Month 6, though remaining aesthetically relevant.

According to the results given, there is a difference at 95% confidence level (p = 0.000 < 0.05, chi-squares = 31.75). While there is no difference between 14th day and 3rd month (p = 1.0 > 0.05), there is a difference between 14th day and 6th month (p = 0.019 < 0.05), there is a difference between 3rd month and 6th month (p = 0.028 < 0.05). At the 6th month, there is a slight decrease in the degree of satisfaction of the physician. The satisfaction results generally "Satisfied" and "Very Satisfied" are at the level (See Figure 7).

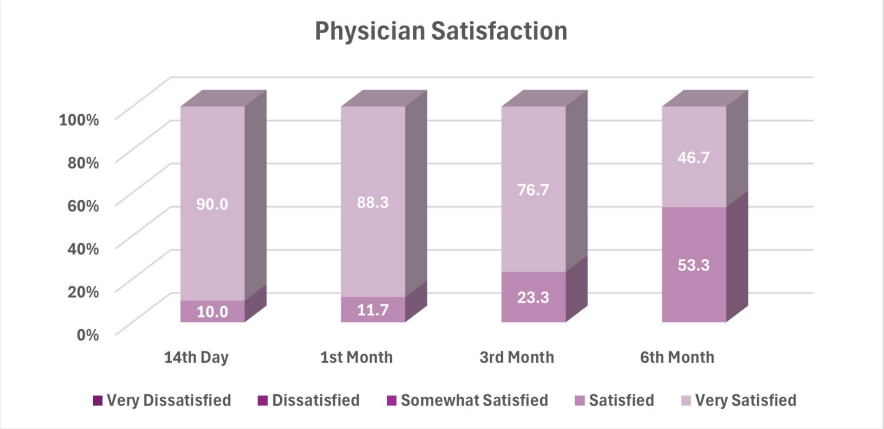

Figure 7. Avillon diamond lips physician satisfaction.

A nonparametric Friedman Test was performed to compare the experience of Avillon Diamond Lips products at 14th day, 1st month, 3rd month and 6th month. At the 95% confidence level, there was no statistically significant difference in experience between Day 14, Month 1 and Month 3 (p = 0.055 < 0.05). There was a difference at Month 6. 95% of physicians answered "strongly agree" and "agree" (See Figure 8).

The non-parametric Friedman test was applied to compare the I-GAIS scores of the filling applied to the lip area (See Figure 9). There is a difference between months in terms of I-IGAS values at 95% confidence level (p = 0.000 > 0.05). The 6th month differs from the other months and there is a decrease in the 6th month. Aesthetic results are generally "Good" and "Very Good".

No significant difference was observed in the Patient Improvement Global Aesthetic Scale (P-IGAS) at day 14, month 1, month 3 and month 6.

In terms of 6th month GAIS scores, there is a significant difference between patient and physician groups at 95% confidence level (0.000 < 0.05). There is no significant difference between the patient and physician groups in terms of 14th day, 1st month and 3rd month GAIS scores (p = 0.376).

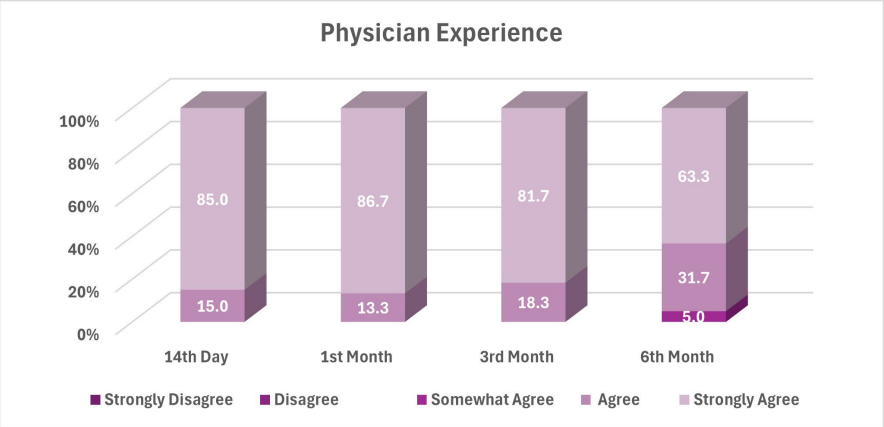

Figure 8. Avillon Diamond Lips physician experience.

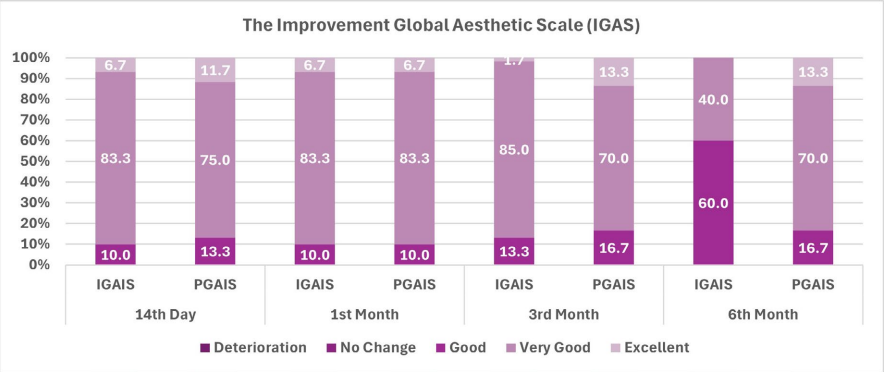

Figure 9. Investigator Global Aesthetic Improvement Score (GAIS) ratios for Avillon Diamond Lips filler application.

No serious side effects were observed in Avillon Diamond Lips applications. The most common side effects were redness (n = 58), bruising (n = 25), bleeding (n = 21), pain (n = 35), needle marks (n = 15). These common side effects completely regressed within 3 days. No other side effects were encountered in the long term.

6. Discussion

Hyaluronic acid (HA) based fillers have become an increasingly preferred treatment modality in aesthetic dermatology. The main reasons for this are the biocompatibility, biodegradation properties and reversibility advantages of HA fillers. In this study, we evaluated the efficacy and safety of Avillon Diamond fillers for the treatment of volume and elasticity loss caused by aging in the facial area.

In our study, the use of Deep, Fine and Lips fillers in various facial regions was analyzed. The results show that Deep fillers provide a significant increase in volume and lifting effect especially in the zygomatic region, anteromedial cheek area, submalar region, nasolabial folds, jaw line; Fine fillers in the perioral, infraorbital, Marionette region; and Lips products in the lips. These results are consistent with other studies in the literature. For example, Fabi and Braz's study revealed that hyaluronic acid-based fillers provide a successful volume augmentation and lifting

effect in the mid-face area [1] [4]. At the same time, a study by Raspaldo *et al.* emphasized the long-term effects of dermal fillers on contouring and rejuvenation of facial contours [5]. Compared to the exemplary studies, the volume and lifting rate of the Avillon Diamond Deep product was more effective. Some studies show that an improvement rate between 38% and 75% in WSRS scores can be achieved 6 months after the application of dermal fillers [6]. Raspagliesi *et al.* reported sustained midface volume improvement at six months following hyaluronic acid injection, with 91% of patients maintaining their aesthetic correction, which is in line with our observation of predominantly mild-to-moderate volume loss at Month 6 in both the Deep and Fine groups [7]. The results of Avillon Diamond Deep filler applications are also consistent with the literature information and showed similar retention rates. Similarly, Trevidic *et al.* demonstrated that HA fillers applied to nasolabial folds preserved their clinical effectiveness for at least six months, with comparable physician and patient satisfaction scores [8]. Our results also mirror this trend, particularly in the Deep group, where volume and lifting scores remained statistically stable over time ($p > 0.05$).

In a study by Mustak *et al.* evaluating the long-term effects of periorbital fillers, 147 patients were followed for 5 years and it was reported that hyaluronic acid fillers were well tolerated in the periorbital region [9]. Fine Avillon Diamond fillers have shown satisfactory results when used in more sensitive areas such as the perioral region and under-eye fillers. These results are particularly important where the signs of aging appear as finer lines and wrinkles. Avillon Diamond Fine has shown a one-to-one effect with competitors, especially when looking at the physician experience in the under-eye filler evaluation. In the sixth month, 92.8% of physician and patient satisfaction was rated "very good".

Most studies addressing the efficacy and durability of lip filler injection have used subjective evaluation criteria such as patient satisfaction questionnaires and physician observation [10]. In Lips filler applications, the filler has been observed to be effective in increasing lip volume and shaping. In their meta-analysis study, Czumbel *et al.* showed that hyaluronic acid injections were effective for at least 6 months, and that the increase in lip volume was significantly maintained in approximately half of the patients even one year after the injections [11].

In our study, the expected effect persisted, although there was a difference between the 3rd and 6th month for Avillon Diamond filler types. This finding can be explained by the fact that hyaluronic acid fillers resorb over time and their efficacy decreases over time and is similar to that of other routinely used fillers. The gradual reduction observed in our study, especially in highly mobile regions such as the perioral area and lips, is therefore not unexpected. It may also reflect differences in cross-linking density, particle size, and viscoelastic behavior among different filler formulations. These factors likely contributed to the sustained but slightly declining outcomes observed beyond the third month in our study groups.

In our study, the side effects seen in patients due to filler applications were generally mild and it was observed that these effects regressed in a short time. No long-term side effects were observed. This is consistent with other studies sup-

porting the safety profile of hyaluronic acid fillers [12].

When Avillon Diamond products were evaluated in terms of overall ease of use, Deep was rated as "easy" or "very easy" in 95.1% of applications, Fine in 93% of applications and Lips in 95% of applications. When Avillon Diamond products were evaluated in terms of extrusion force, Deep product was evaluated as "soft" and "very soft" in 72.1% of the applications, Fine product in 87.8% of the applications and Lips product in 90% of the applications. Avilion Diamond products were evaluated as "cohesive".

7. Conclusions

This study shows that Avillon Diamond fillers are an effective and safe option for facial rejuvenation and volume augmentation. It is known that hyaluronic acid-based fillers provide high patient and physician satisfaction, especially in the short term, but the efficacy decreases over time, and this is consistent with our study. The efficacy and safety of Avillon Diamond fillers continued until the 6th month.

In general fillers, slight decreases in volume and lifting effects were observed after the 6th month, which suggests that additional treatments can be applied at more frequent intervals if necessary. This may be observed in future studies of Avillon Diamond fillers.

In addition to clinical efficacy and safety, the potential cost-effectiveness of Avillon Diamond products is also worth consideration. Given their durable results and user-friendly application, these fillers may reduce the need for frequent touch-ups and optimize clinical workflow, ultimately offering economic advantages to both patients and practitioners.

In conclusion, hyaluronic acid-based dermal fillers stand out as a safe and effective method for facial rejuvenation. However, in order to maintain the efficacy of these products, regular follow-up and additional applications when necessary are important. Although our study contributes to the data obtained as a result of the widespread use of these fillers in clinical applications, it also emphasizes the need for further research.

Author Contributions

Conceptualization, Z.K. and T.M.; methodology, Z.K., T.M. and B.D.; investigation, Z.K., T.M., B.D. and M.Ç.; data curation, Z.K., T.M. and B.D.; formal analysis, T.M. and M.Ç.; writing—original draft preparation, T.M.; writing—review and editing, Z.K. and B.D. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Vazirnia, A., Braz, A. and Fabi, S.G. (2020) Nonsurgical Jawline Rejuvenation Using

Injectable Fillers. *Journal of Cosmetic Dermatology*, **19**, 1940-1947. https://doi.org/10.1111/jocd.13277

[2] Bertucci, V., Nikolis, A., Solish, N., Lane, V. and Hicks, J. (2021) Efficacy and Safety of Flexible Hyaluronic Acid Fillers in Lip and Perioral Enhancement. *Journal of Drugs in Dermatology*, **20**, 402-408. https://doi.org/10.36849/jdd.5525

[3] Cong, L.Y., Zhang, S., Huang, J., Yang, W., Lou, X., Liu, X., *et al.* (2024) A Study on the Aesthetic Parameters and Proportions of the External Contour for Minimally Invasive Facial Injection. *Aesthetic Plastic Surgery*, **48**, 4750-4759. https://doi.org/10.1007/s00266-024-04232-6

[4] Braz, A. and Eduardo, C.C.D.P. (2020) Reshaping the Lower Face Using Injectable Fillers. *Indian Journal of Plastic Surgery*, **53**, 207-218. https://doi.org/10.1055/s-0040-1716185

[5] Raspaldo, H., De Boulle, K. and Levy, P.M. (2010) Longevity of Effects of Hyaluronic Acid Plus Lidocaine Facial Filler. *Journal of Cosmetic Dermatology*, **9**, 11-15. https://doi.org/10.1111/j.1473-2165.2010.00481.x

[6] Li, X.Z., Chiang, C.F., Lin, Y.H., Chen, T.M., Wang, C.H., Tzeng, Y.S. and Cui, H.Y. (2023) Safety and Efficacy of Hyaluronic Acid Injectable Filler in the Treatment of Nasolabial Fold Wrinkle: A Randomized, Double-Blind, Self-Controlled Clinical Trial. *Journal of Dermatological Treatment*, **34**, Article ID: 2190829. https://doi.org/10.1080/09546634.2023.2190829

[7] Alessandrini, A., Fino, P., Giordan, N., Amorosi, V. and Scuderi, N. (2015) Evaluation of a New Hyaluronic Acid Dermal Filler for Volume Restoration. *Journal of Cosmetic and Laser Therapy*, **17**, 335-342. https://doi.org/10.3109/14764172.2015.1039038

[8] Trevidic, P., Andre, P., Benadiba, L., Deutsch, J., Galatoire, O., Garcia, P., *et al.* (2017) Prospective, Split-Face, Randomized, Long-Term Blinded Objective Comparison of the Performance and Tolerability of Two New Hyaluronic Acid Fillers. *Dermatologic Surgery*, **43**, 1448-1457. https://doi.org/10.1097/dss.0000000000001193

[9] Mustak, H., Fiaschetti, D. and Goldberg, R.A. (2018) Filling the Periorbital Hollows with Hyaluronic Acid Gel: Long-Term Review of Outcomes and Complications. *Journal of Cosmetic Dermatology*, **17**, 611-616. https://doi.org/10.1111/jocd.12452

[10] Graivier, M., Fabi, S., Nestor, M., Meuse, P. and Mashburn, J. (2018) A Multi-Center, Open-Label, Prospective Study of Cannula Injection of Small-Particle Hyaluronic Acid Plus Lidocaine (SPHAL) for Lip Augmentation. *Journal of Drugs in Dermatology*: *JDD*, **17**, 10-16.

[11] Czumbel, L.M., Farkasdi, S., Gede, N., Mikó, A., Csupor, D., Lukács, A., *et al.* (2021) Hyaluronic Acid Is an Effective Dermal Filler for Lip Augmentation: A Meta-Analysis. *Frontiers in Surgery*, **8**, Article 681028. https://doi.org/10.3389/fsurg.2021.681028

[12] Beer, K., Biesman, B., Cox, S.E., Smith, S., Picault, L. and Trevidic, P. (2023) Efficacy and Safety of Resilient Hyaluronic Acid Fillers Injected with a Cannula: A Randomized, Evaluator-Blinded, Split-Face Controlled Study. *Clinical, Cosmetic and Investigational Dermatology*, **16**, 959-972. https://doi.org/10.2147/ccid.s402315