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AESTHETIC SATISFACTION AFTER THE SURGICAL TREATMENT OF FACIAL NMSC - 5 YEAR STUDY

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ABSTRACT

Background: Skin cancers are the most common malignant tumors, with nonmelanoma skin cancers (NMSCs) being the predominant group. In recent years, the diagnosis of NMSCs has increased. Today, patients are more sensitive to aesthetic outcomes, necessitating that surgeons also focus on the final appearance of the scar, especially in facial procedures. A satisfactory visual outcome significantly influences patients' perception of comfort, quality of treatment, and overall quality of life.

Methods: In our study, we surveyed patients who underwent surgery for facial skin cancer to assess their aesthetic satisfaction. We analyzed their responses based on six criteria: age, gender, number of tumor foci, lesion location, extent of excision, and tumor type. The questionnaire addressed satisfaction with the overall aesthetic effect, scar visibility, preserved facial symmetry, and willingness to recommend our clinic.

Results and Conclusions: We collected responses from 698 patients. Among the questions, satisfaction was lowest for scar visibility. Gender did not show a statistically significant difference in satisfaction levels. Satisfaction with the aesthetic outcome decreased with age. Of the operated locations, the highest aesthetic satisfaction was noted for eye area excisions, and the lowest for the nose. The number of cancerous lesions did not affect aesthetic satisfaction. Both incomplete excisions and tumor recurrences lowered satisfaction, with recurrences having a more significant impact. Patients treated for basal cell carcinoma (BCC) reported greater satisfaction with the aesthetic outcome than those treated for squamous cell carcinoma (SCC).

KEYWORDS

Aesthetic Surgery, Facial Surgery, NMSC, BCC, SCC, Aesthetic Astisfaction

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Introduction

Skin cancers are the most frequent malignant tumors among Caucasians, accounting for 75% of all diagnosed malignancies. Nonmelanoma skin cancers (NMSCs) are the predominant group, making up about one-third of all recorded cancers [1, 2, 3]. Among these, basal cell carcinoma is the most common, constituting approximately 80% of skin cancers. It is characterized by slow growth, local malignancy, and a low mortality rate. Squamous cell carcinoma, the second most common, accounts for about 20% of skin cancers and has a faster and more aggressive course. The incidence of skin cancers is rising each year, largely due to increased sun exposure and an aging population, which are significant risk factors [4,5,6]. Numerous treatment methods exist for NMSCs, with surgical methods being the most frequently used and considered the most effective. The primary method is resection with margin, with curettage and electrodesiccation (C&E) and Mohs micrographic surgery (MMS) also utilized.

In the surgical treatment of facial cancer lesions, it is essential to perform a complete excision while minimizing tissue function loss and optimizing the aesthetic outcome. In patient-centered care, healthcare should address patient needs and requests, including the care, attention, empathy of the doctor, and communication with the patient. These factors, along with the overall cosmetic result, create a comprehensive picture of patient satisfaction, which is crucial for the quality of healthcare. Considering patient perceptions of treatment quality is important when developing quality improvement programs [7, 8, 9]. Attention to patient satisfaction can enhance adherence to medical recommendations, resulting in better treatment outcomes and a higher quality of life [8, 10]. Understanding the key factors influencing patient satisfaction is therefore essential.

In this study, we investigated the opinions of patients who underwent surgical treatment for facial malignant skin cancer at our institution over the past five years. The aim of this study was to identify the factors influencing patients' aesthetic satisfaction after the surgical excision of NMSCs from the facial region.

Materials and Methods

In this retrospective study conducted at the Department of Plastic Surgery at the University Clinical Center in Gdansk, Poland, we reviewed clinical records of patients treated for facial skin cancer over the past five years (2017-2022). We identified and analyzed medical records of patients with histopathologically confirmed BCC or SCC. Selected patients were then verified for completeness of criteria such as gender, age, date of hospitalization, type of cancer, lesion location, number of hospitalizations, the person performing the procedure, type of surgical treatment used, cancerous lesion size, type of anesthesia used, and number of locations. For the patients meeting these criteria, we verified telephone numbers for availability and validity in the hospital system, and conducted telephone surveys with the selected group. Only survey responses that were complete and had the required permissions were included in the study. The assessment of aesthetic satisfaction was based on the subjective opinions of the patients.

Data analysis was performed using IBM SPSS Statistics 29.0. Categorical variables were presented as frequencies and percentages, while continuous variables such as ratings of aesthetic attributes, symmetry, scars, and patient recommendations for the clinic were expressed as mean and standard deviation (mean ± SD). Pearson's Chi-square and Fisher's exact tests were used to assess associations between different categorical variables. Significance was interpreted at $\alpha \leq 0.05$. The study included 698 patients, with missing values excluded from calculations. Most commonly, missing values occurred for patient lesion size where n = 631. Responses, excluding the last question, were given on a scale of 1-10; for the last question, the scale was 1-5. Qualitative variables were categorized as follows: values from 1 to 6 indicate 'not satisfied', values from 7 to 9 indicate 'satisfied', and a value of 10 indicates 'extremely satisfied'. Due to the limited occurrence of the 'extremely satisfied' category, it was excluded from the presentation of results for continuous variables. For the calculation of the odds ratio (OR), variables were recorded into binary values: values from 1 to 5 indicate no satisfaction and values from 6 to 10 indicate satisfaction.

This research was approved by an ethics committee. All participants in telephone-based survey gave verbal approval to participate in it.

Results

Among 2152 patients, we successfully collected complete questionnaires from 698 individuals, resulting in a 32.5% response rate. Data from non-responders, which can be found in the Supplemental Digital Content.

We analyzed six criteria: gender, age, location, number of tumor lesions, completeness of excision, and type of carcinoma (BCC or SCC). Patients' mean scores for all four questions are presented in Figure1. The pooled results are shown in Figure2, and the odds ratio parameters are detailed in Figure3. All additional tables are available in the Supplemental Digital Content.

Of the four questions asked, the highest ratings were for recommending the clinic for similar procedures. Patients were least satisfied with the visibility and aesthetics of the scar.

Patient ages ranged from 32 to 100 years old. The group comprised 298 men (41.4%) and 409 women (58.6%), with an average age of 73.33 years. There was no significant difference in aesthetic satisfaction between men and women.

The most numerous age groups were 70-79 years (32.8%) and 80-89 years (32.5%). Patients under 59 years old were the most satisfied, while those over 80 were the least satisfied. Satisfaction decreased with age. The likelihood of experiencing satisfaction with the overall aesthetic result was 45% lower in the oldest age group, 60% lower for facial symmetry, and 47% lower for scar visibility.

The most common cancer location was the nose (35.5%). Patients were most satisfied with surgeries on eye-area cancers, with 72.7% expressing extreme satisfaction with facial symmetry and 46.2% with the scar. Lack of satisfaction was 8.3% and 22.0%, respectively. Patients with nasal cancer were less satisfied, with 48% strongly satisfied with symmetry and 30.4% with scar visibility; lack of satisfaction was 20% and 30%, respectively. Patients with eye-area cancers were 2.9 times more likely to experience satisfaction with the aesthetic outcome and facial symmetry, and 2.7 times more likely to experience satisfaction with scar visibility compared to those with cancers in other locations. Patients with nasal cancers were 45% less likely to experience satisfaction with facial symmetry and 53% less likely to experience satisfaction with scar visibility compared to other locations.

The graphs for the locations are shown in Figure 4A-D.

The number of patients with a single lesion was 613 (87.8%), and those with multiple cancers was 85 (12.2%). Comparison of respondents for this parameter showed no statistically significant differences.

Most patients were operated on for BCC (81.6%), while those treated for SCC (18.4%) expressed less satisfaction. When asked about recommending the clinic, statistically significant differences were noted. 88.8% of patients with BCC and 82.7% of those with SCC would definitely recommend the clinic. Comments were made by 11.2% of BCC patients and 17.3% of SCC patients.

Among the respondents, 44 (6.3%) experienced a recurrence of their skin cancer, 95 (13.6%) had their cancer excised incompletely and required rehospitalization, and 559 (80.2%) had complete excisions. The highest satisfaction was among patients in the last group, while the lowest satisfaction was among those who had a recurrence. This trend proved to be statistically significant for both overall aesthetic effect and facial symmetry. The chance of satisfaction with the overall aesthetic result was 2.1 times higher in patients with complete excisions and no recurrence, 2.4 times higher for preserved facial symmetry, and 2.0 times higher for scar visibility. Patients requiring radical resection were 46% lower chance of being satisfied with scar visibility compared to those with complete excisions or cancer recurrence. Patients with a recurrence were 74% lower chance of being satisfied with preserved facial symmetry than other patients.

The results are shown in Figures 5A-C.

Discussion

In the surgical treatment of facial skin cancers, achieving complete excision is the primary goal. However, in recent years, an increasing number of patients also expect a satisfactory cosmetic outcome, which significantly impacts their quality of life. Our study explored how aesthetic satisfaction is influenced by several key factors, many of which can vary depending on the treatment setting and the surgeon. Focusing on these factors can enhance the quality of life for patients treated in surgical clinics for facial skin cancers.

The first factor we analyzed was the patient's gender. Our study found no statistically significant differences in satisfaction between genders, which aligns with findings by Lee EB et al. [11]. However, other studies have shown a trend where females report lower aesthetic satisfaction [12, 13], possibly because women place greater importance on facial aesthetics and find it more challenging to adapt to facial skin cancer than men [14, 15]. In our survey, women comprised 58.6% of respondents. In Poland, the average life expectancy is 73.4 years for men and 81.1 years for women [16], reflecting the numerical predominance of older women in the population at risk for skin cancer. In 2011, Poland registered 11,439 new skin cancer cases - 5408 in men and 6031 in women [17], similar to the gender distribution reported by Ciuciulete AR et al., where females made up 53% of cases [18].

Patient age influences treatment preferences and expectations. Our study observed a trend of decreasing cosmetic satisfaction with increasing age after surgical treatment of facial skin cancers. Patients over 80 years old were the least satisfied, particularly with scar visibility, facial symmetry, and overall aesthetic effect. As skin ages, it becomes more elastic, which can complicate defect closure after cancer resection [19]. Despite a large study group and robust statistics, our findings differ from some literature, where younger age is often cited as a risk factor for lower aesthetic satisfaction [20, 21, 22]. and in a publication by Sheth N et al. found no age-related differences in general patient satisfaction[23].

The location of facial skin cancers affects the risk of complications, surgical techniques, and the visibility of scars and symmetry. Our study found the highest satisfaction among patients who had skin cancer excised around the eyes and the lowest satisfaction for cancers on the nose. The high satisfaction for eye-area cancers may be due to the skin's elasticity in that area, while the low satisfaction for nasal cancers might be similarly explained. Veldhuizen IJ et al. also reported the lowest satisfaction for lip and nose surgeries and the highest for eye and ear surgeries [22]. The nose is frequently identified as the site with the lowest cosmetic satisfaction [20], though some studies suggest that location does not impact aesthetic satisfaction [24].

Most patients had only one lesion at the start of treatment, while a smaller group had multiple lesions. Our study showed that the number of lesions does not affect final aesthetic satisfaction, consistent with other research [20].

The type of tumor is crucial for disease progression and complication risk. Patients with BCC reported higher aesthetic satisfaction, likely due to BCC's slower progression compared to SCC, which grows faster and can infiltrate more deeply, leading to lower satisfaction scores. However, the trend of higher satisfaction for BCC was not statistically significant, indicating a need for further research.

Complete resection of tumor lesions is essential for treatment planning. Incomplete excision requires margin expansion, worsening the final aesthetic outcome. Our study found a significant difference in satisfaction between patients whose lesions were completely resected in one operation and those needing further intervention. Patients requiring margin expansion or experiencing cancer recurrence were less satisfied,

likely due to the time interval and psychological impact of facing the cancer again. Fresh wounds and ongoing treatment make patients more receptive to further procedures.

Our survey indicated that scar visibility is the major post-procedure concern for patients, a sentiment echoed in the literature. For instance, Gerritsen et al. reported that 66% of respondents were concerned about scarring [25]. Despite these concerns, patients expressed the highest satisfaction when asked if they would recommend the clinic for a similar procedure. Durmus Ucar et al. also reported high satisfaction scores for a similar question, with 13 out of 15 patients with high-risk BCC in the face and neck area indicating they would choose the same treatment again, and the remaining 2 would choose the same treatment method despite minor difficulties [26]. Ultimately, despite some reservations, patients are satisfied with the treatment and are willing to repeat it if necessary or refer others for similar treatment.

In conclusion, our study highlights several key factors influencing aesthetic satisfaction in the surgical treatment of facial skin cancers. These factors include gender, age, tumor location, the number of lesions, tumor type, and completeness of tumor resection. Understanding these factors can help improve patient outcomes and quality of life. By paying attention to these variables, surgical clinics can better meet patient expectations and enhance the overall treatment experience for those undergoing procedures for facial skin cancers.

Limitations

The study was conducted on a large group of patients, all from a single surgical department. While this approach provided a comprehensive dataset, conducting surveys across multiple hospitals simultaneously could potentially enhance the quality of results. Patients answered questions by telephone, which may have led some respondents to not fully focus on their responses. Conducting surveys in person would afford respondents greater comfort, allowing them more time to consider their answers and potentially provide more thoughtful responses.

Conclusions

1. Gender does not affect aesthetic satisfaction following facial skin cancer excision.
2. Satisfaction with the achieved cosmetic result decreases with age
3. The location of facial skin cancer significantly impacts patient aesthetic satisfaction after treatment. Patients are most satisfied after excision of lesions around the eye area and least satisfied with nasal skin cancers.
4. The number of tumor lesions at the beginning of treatment does not affect final patient satisfaction.
5. Cancer recurrence reduces satisfaction with facial skin cancer treatment more than incomplete excision does.
6. Patients express higher satisfaction with the aesthetic outcome following BCC excision compared to SCC excision.

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Figure Legend:
Figure 1. A table of patients' mean scores answers for all four questions

Parameter	Aesthetic				Symmetry				Scar				Recommendation		
		Mean	SME			Mean	SME			Mean	SME			Mean	SME
Gender	**n = 698**				**n = 697**				**n = 697**				**n =698**		
Female		8.80	2.07			8.80	2.07			8.27	2.12			4.75	0.77
Male		8.76	1.91			8.85	1.70			8.25	4.57			4.78	0.72
Histopathology	**n = 690**				**n = 689**				**n = 689**				**n = 690**		
BCC		8.88	1.86			8.90	1.84			8.30	2.11			4.77	0.73
SCC		8.62	2.24			8.46	2.25			8.09	2.18			4.69	0.81
Radication of excision	**n = 698**				**n = 697**				**n = 697**				**n = 698**		
First treatment		8.91	1.85			8.91	1.82			8.35	1.99			4.76	0.76
Widening		8.55	2.34			8.51	2.26			7.95	2.66			4.75	0.76
Recurrence		8.47	2.13			8.23	2.37			7.77	2.40			4.75	0.58
Number of lesions	**n = 698**				**n = 697**				**n = 697**				**n = 698**		
1		8.83	1.96			8.82	1.95			8.26	2.15			4.75	0.77
2 or more		8.87	1.77			8.77	1.72			8.26	1.98			4.84	0.61
Age	**n = 698**				**n = 697**				**n = 697**				**n = 698**		
59 and under		9.16	1.42			9.03	1.48			8.44	1.77			4.84	0.63
60 - 69		8.94	1.67			8.87	1.61			8.49	1.82			4.82	0.65
70 - 79		8.80	2.08			8.92	1.92			8.23	2.24			4.72	0.84
80 and over		8.67	2.12			8.60	2.25			8.07	2.30			4.73	0.75
Localization	**n = 697**				**n = 696**				**n = 696**				**n = 697**		
Eye		9.20	0.13			9.35	0.12			8.71	0.15			3.22	0.32
Forehead, scalp, temple		8.72	0.21			8.85	0.19			8.11	0.24			3.28	0.24
Lip, chin		8.80	0.30			8.73	0.28			8.53	0.24			3.00	0.44
Nose		8.61	0.13			8.54	0.13			7.92	0.15			2.97	0.20
Cheek		8.90	0.19			8.80	0.20			8.34	0.20			3.14	0.31
Ear		9.10	0.25			8.82	0.27			8.61	0.28			2.20	0.58

Figure 2. A table that shows pooled results divided by examined criteria

Parameter	Aesthetic				Symmetry				Scar				Recommendation			
	Definietly satified	Satisfied	No satisfaction	p value	Definietly satified	Satisfied	No satisfaction	p value	Definietly satified	Satisfied	No satisfaction	p value		Fully satisfied	Not fully satisfied	p value
Age				0,294				0,306				0,629				0,48
59 and under	50	21	8		48	19	12		28	34	17			72	7	
60 - 69	94	48	21		85	55	23		65	58	40			146	17	
70 - 79	137	50	42		131	63	34		92	74	63			200	29	
80 and over	126	59	42		128	54	45		82	78	66			194	33	
Gender				0,462				0,550				0,865				0,542
Female	246	98	65		236	106	66		153	144	111		698	356	53	
Male	161	80	48		156	85	48		114	100	75			256	33	
Histopathology				0,181				0,107				0,236	690			0,057
BCC	328	150	85		326	153	83		223	195	144			500	63	
SCC	75	26	26		64	35	28		41	46	40			105	22	
Radication of excision				0,093 *				0,096 *				0,678				0,462
First treatment	331	148	80		324	154	81		217	197	144			493	66	
Widening	53	19	23		48	24	23		37	30	28			83	12	
Recurrence	23	11	10		20	13	10		13	17	14			36	8	
Number of lesions				0,924				0,705				0,199				0,384
1	358	157	98		348	165	100		240	207	165			535	78	
2 or more	49	21	15		44	26	14		27	37	21			77	8	
Localization				0,164				**0,004**				**0,027**				0,254
Eye	85	34	13		13	34	85		61	42	29			123	9	
Forehead, scalp, temple	63	22	20		20	22	63		43	30	32			87	18	
Lip, chin	34	13	9		9	13	34		19	25	12			49	7	
Nose	126	73	49		49	73	126		75	98	74			215	33	
Cheek	63	27	15		15	27	63		41	38	26			91	14	
Ear	35	9	7		7	9	35		27	11	13			46	5	

Figure 3. A table of odds ratio results

Parameter		**Patients**		**Aesthetic**		**Symmetry**		**Scar**		**Recommendation**	
				ODDs ratio	**p value**	**ODDs ratio**	**p value**	**ODDs ratio**	**p value**	**ODDs ratio**	**p value**
	N	**n**	**n%**	**[95% CI]**		**[95% CI]**		**[95% CI]**		**[95% CI]**	
Age	**694**										
59 and under		79	11.4 %	1,95 [0,69 - 5,53]	0.200	3,34 [0,8 - 14,01]	0.081	2,09 [0,82 - 5,34]	0.115	1,50 [0,67 - 3,39]	0.320
60 - 69		162	23.3 %	1,66 [0,82 - 3,35]	0.152	1,12 [0,56 - 2,23]	0.751	1,87 [0,98 - 3,54]	0.053	1,27 [0,72 - 2,23]	0.401
70 - 79		227	32.7 %	1,02 [0,59 - 1,79]	0.937	1,83 [0,92 - 3,64]	0.080	0,97 [0,59 - 1,59]	0.906	0,95 [0,59 - 1,54]	0.847
80 and over		226	32.6 %	**0,55 [0,32 - 0,93]**	**0.025**	**0,40 [0,22 - 0,71]**	**0.001**	**0,53 [0,33 - 0,84]**	**0.007**	0,75 [0,47 - 1,19]	0.216
Gender	**694**										
Female		405	58.4 %	1,35 [0,80 - 2,28]	0.259	0,76 [0,42 - 1,37]	0.357	0,97 [0,6 0- 1,55]	0.896	0,87 [0,54 - 1,38]	0.542
Male		289	41.6 %	0,74 [0,44 - 1,25]	0.259	1,32 [0,73 - 2,40]	0.357	1,03 [0,64 - 1,65]	0.896	1,15 [0,73 - 1,84]	0.542
Histopathology	**694**										
BCC		564	81.3 %	1,58 [0,86 - 2,89]	0.135	1,55 [0,80 - 3,00]	0.190	0,99 [0,55 - 1,80]	0.981	1,59 [0,94 - 2,69]	0.084
SCC		130	18.7 %	0,63 [0,35 - 1,16]	0.135	0,64 [0,33 - 1,25]	0.190	1,01 [0,55 - 1,83]	0.981	0,63 [0,37 - 1,07]	0.084
Radication of excision	**694**										

First treatment		557	80.3 %	**2,10 [1,19 - 3,70]**	**0.009**	**2,40 [1,31 - 4,40]**	**0.004**	**1,97 [1,18 - 3,30]**	**0.009**	1,26 [0,73 - 2,15]	0.407
Widening		94	13.5 %	0,55 [0,29 - 1,07]	0.073	0,71 [0,33 - 1,52]	0.376	**0,54 [0,30 - 0,97]**	**0.038**	0,97 [0,50 - 1,86]	0.921
Recurrence		43	6.2%	0,47 [0,20 - 1,12]	0.081	**0,26 [0,12 - 0,58]**	**<0,001**	0,57 [0,26 - 1,27]	0.166	0,61 [0,27 - 1,36]	0.222
Number of lesions	**694**										
1		609	87.8 %	1,07 [0,49 - 2,33]	0.869	1,17 [0,51 - 2,68]	0.715	0,76 [0,35 - 1,64]	0.486	0,71 [0,33 - 1,53]	0.384
2 or more		85	12.2 %	0,94 [0,43 - 2,04]	0.869	0,86 [0,37 - 1,97]	0.715	1,31 [0,61 - 2,83]	0.486	1,40 [0,65 - 3,02]	0.384
Localization	**694**										
Eye		132	19.0 %	**2,87 [1,13 - 7,30]**	**0.021**	**2,93 [1,04 - 8,27]**	**0.034**	**2,71 [1,22 - 6,04]**	**0.011**	**2,16 [1,05 - 4,42]**	**0.032**
Forehead, scalp, temple		102	14.7 %	0,63 [0,33 - 1,20]	0.155	1,09 [0,48 - 2,50]	0.835	0,73 [0,40 - 1,33]	0.304	0,63 [0,36 - 1,11]	0.104
Lip, chin		56	8.1%	0,82 [0,34 - 1,99]	0.660	1,44 [0,43 - 4,78]	0.549	1,38 [0,53 - 3,57]	0.503	0,98 [0,43 - 2,25]	0.969
Nose		247	35.6 %	0,74 [0,44 - 1,27]	0.274	**0,55 [0,31 - 0,98]**	**0.041**	**0,47 [0,29 - 0,75]**	**0.001**	0,87 [0,55 - 1,39]	0.564
Cheek		105	15.1 %	1,21 [0,56 - 2,62]	0.630	0,81 [0,38 - 1,72]	0.583	1,30 [0,65 - 2,62]	0.454	0,90 [0,49 - 1,66]	0.737
Ear		52	7.5%	1,19 [0,41 - 3,42]	0.744	1,32 [0,40 - 4,40]	0.648	3,51 [0,84 - 14,73]	0.067	1,32 [0,51 - 3,42]	0.568

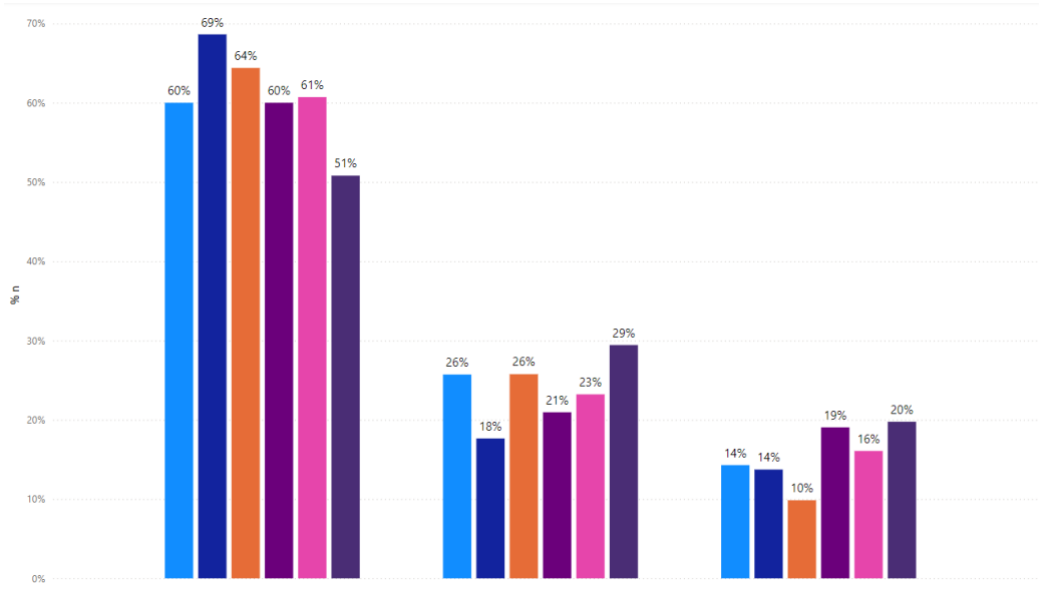

Figure 4A. A graphs that shows results of first question about general aesthethic outcome of satisfaction depends on location

Light blue – cheek
Dark blue – ear
Orange – ear
Purple – forehead, scalp, temple
Pink – lip, chin
Dark purple – nose
1st group – "Definietely satisfied"
2nd group – "Satisfied"
3rd group – "No satisfaction"

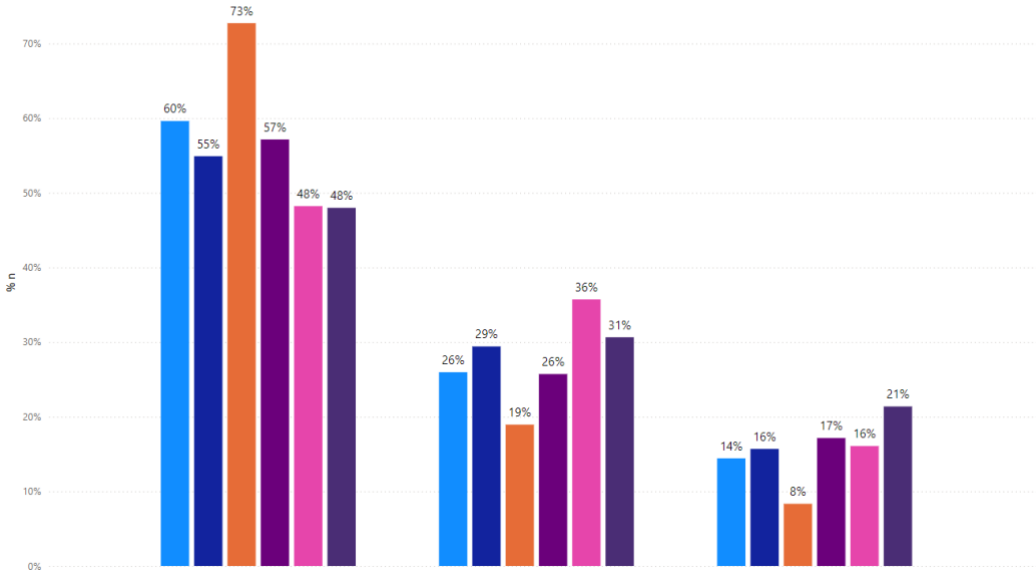

Figure 4B. A graphs that shows results of third question about symmetry preserved depends on location

Light blue – cheek
Dark blue – ear
Orange – ear
Purple – forehead, scalp, temple
Pink – lip, chin
Dark purple – nose
1st group – "Definietely satisfied"
2nd group – "Satisfied"
3rd group – "No satisfaction"

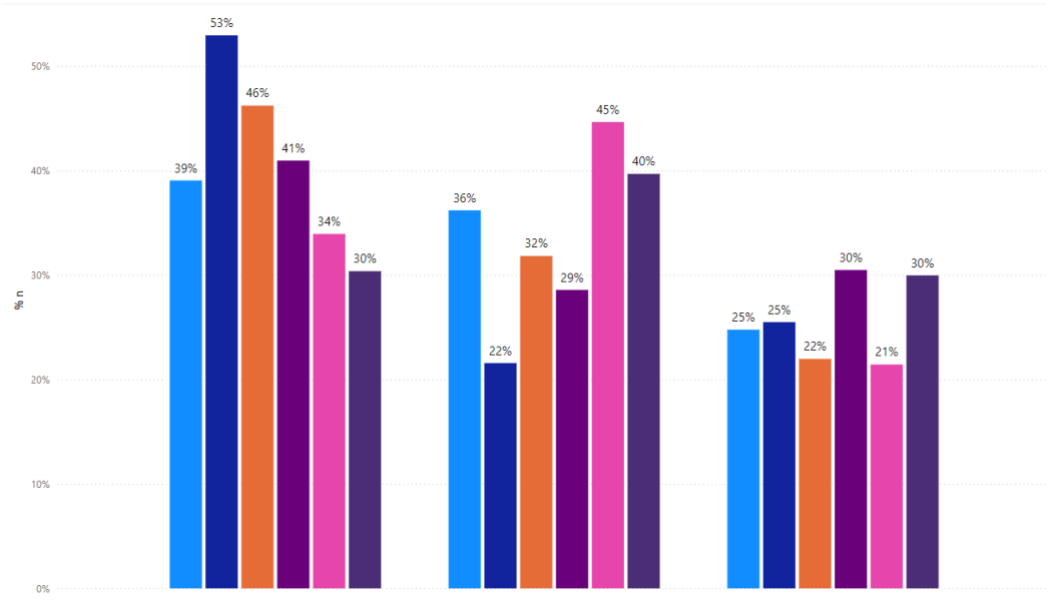

Figure 4C: A graphs that shows results of fourth question about visibility of the scar depends on location
Light blue – cheek
Dark blue – ear
Orange – ear
Purple – forehead, scalp, temple
Pink – lip, chin
Dark purple – nose
1st group – "No satisfaction"
2nd group – "Satisfied"

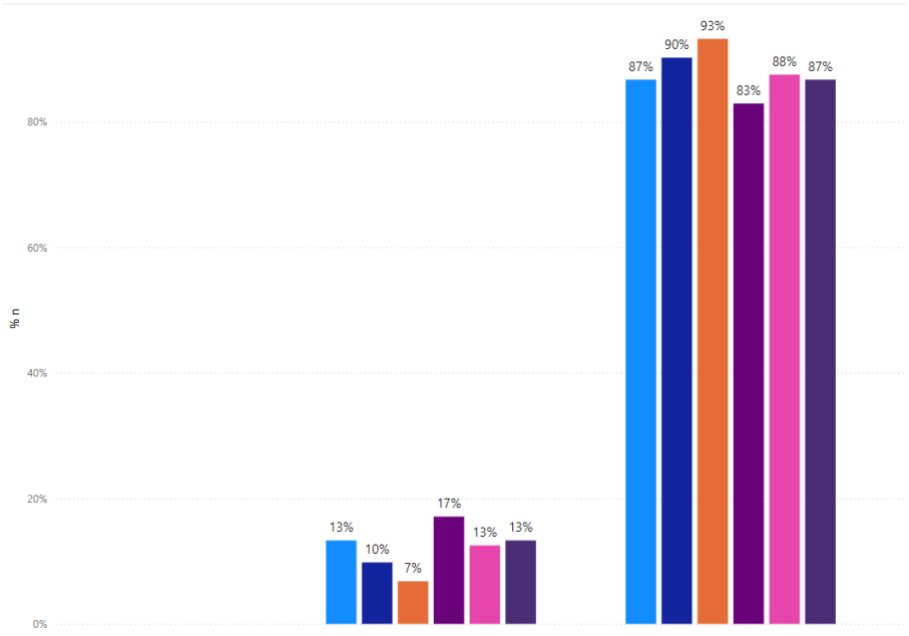

Figure 4D: A graphs that shows results of fourth question about clinic recommendation depends on location
Light blue – cheek
Dark blue – ear
Orange – ear
Purple – forehead, scalp, temple
Pink – lip, chin
Dark purple – nose
1st group – "No satisfaction"
2nd group – "Satisfied"

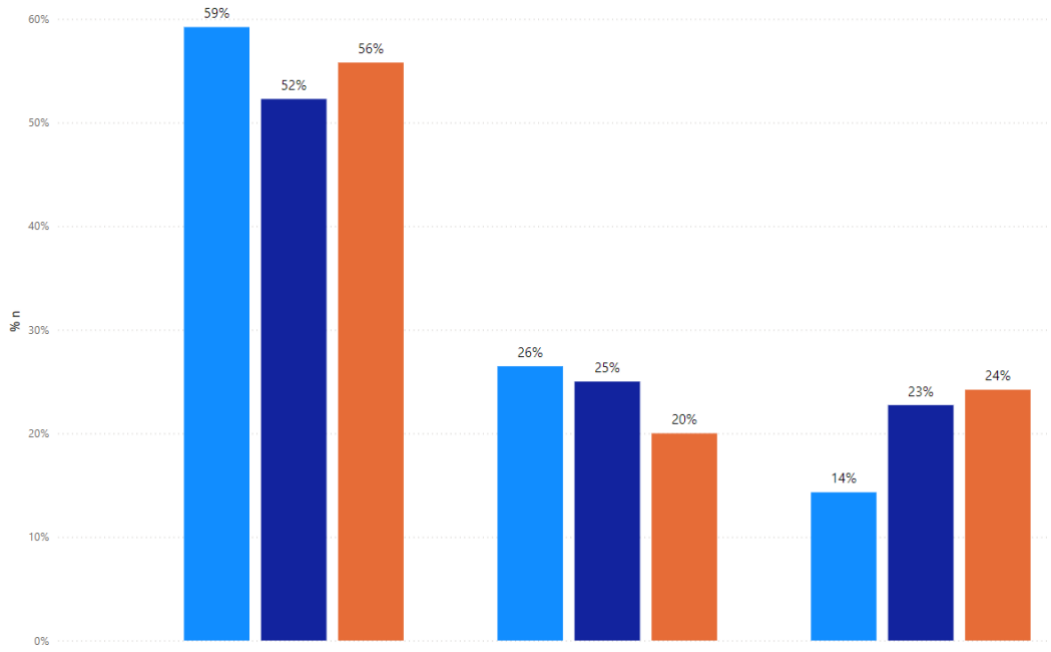

Figure 5A: A graphs that shows results of first question about general aesthethic outcome of satisfaction depends on radication of excision

Light blue – first treatment
Dark blue – recurrence
Orange – widening
1st group – "Definietely satisfied"
2nd group – "Satisfied"
3rd group – "No satisfaction"

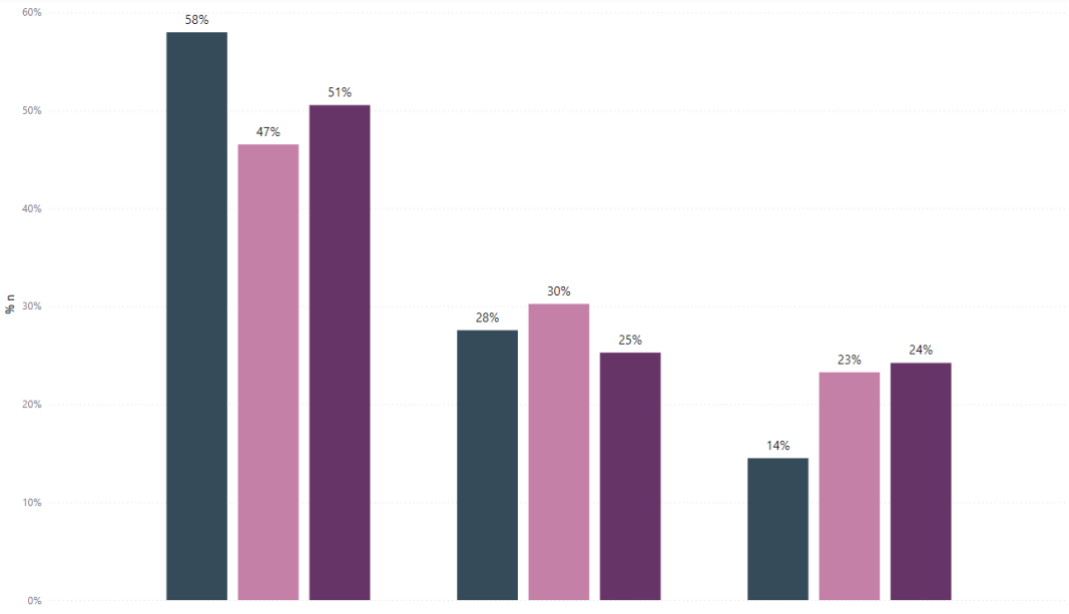

Figure 5B: A graphs that shows results of third question about symmetry preserved depends on radication of excision

Green– first treatment
Pink – recurrence
Purple – widening
1st group – "Definietely satisfied"
2nd group – "Satisfied"
3rd group – "No satisfaction"

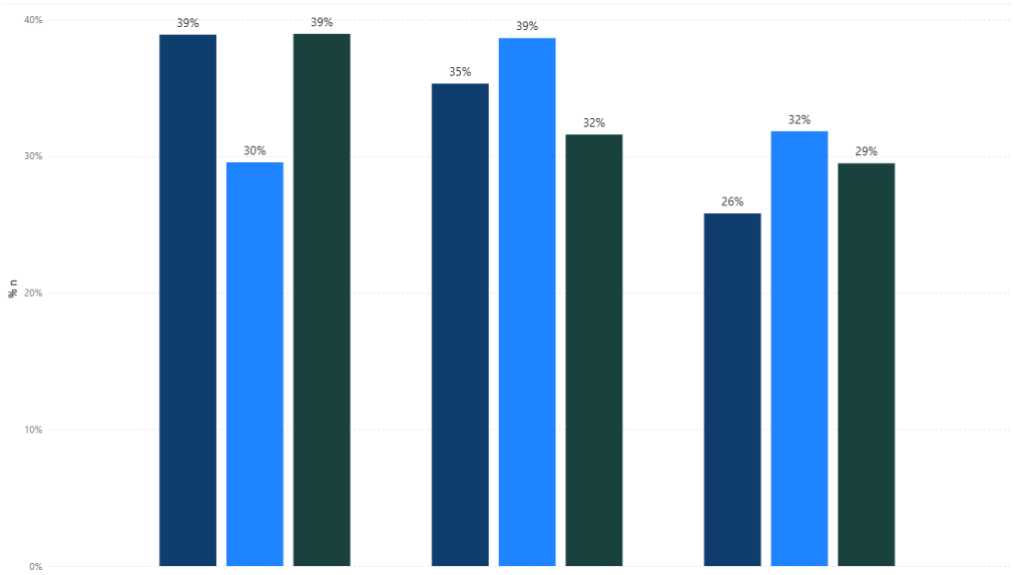

Figure 5C: A graphs that shows results of second question about visibility of the scar depends on radication of excision

Dark blue – first treatment
Light blue – recurrence
Green – widening
1st group – "Definietely satisfied"
2nd group – "Satisfied"
3rd group – "No satisfaction"