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# Quality of life of patients after keratorefractive surgery

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**Purpose:** to assess the quality of life (QoL) of patients who underwent keratorefractive surgery and to determine its association with sociodemographic and surgery related factors. **Material and methods.** A Descriptive Cross-Sectional Study was carried out over a period of six months from March 2024 to August 2024 to assess the QoL of patients who underwent keratorefractive surgery. Data was collected using non-probability consecutive sampling strategy using a validated and interview-based Questionnaire tool: Quality of Life Impact of Refractive Correction (QIRC). Data was analyzed using Statistical Package for Social Science (SPSS) version 26. **Results.** The results of this study indicated a moderate increase in QoL, while there was no significant association between sociodemographic factors and the QoL of patients following keratorefractive surgery. Specifically, variables such as level of education ( $p = 0.09$ ), occupation ( $p = 0.70$ ), age group ( $p = 0.30$ ), and gender ( $p = 1.00$ ) did not show a statistically significant relationship. Additionally, no significant association was observed between surgery-related factors and quality of life, including the type of refractive surgery ( $p = 0.107$ ) and post-surgery duration ( $p = 0.512$ ). **Conclusion.** The findings indicate a moderate increase in the QoL among individuals who underwent keratorefractive surgical procedures. The majority of the patients reported an improvement in their QoL following keratorefractive surgery.

**Keywords:** keratorefractive surgery; quality of life; laser-assisted in situ keratomileusis (LASIK); photorefractive keratectomy (PRK); transepithelial photorefractive keratectomy (Trans PRK); quality of life impact of refractive correction (QIRC)

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## Качество жизни пациентов после кераторефракционной хирургии

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**Цель работы** — оценить качество жизни (КЖ) пациентов, перенесших кераторефракционную хирургию, и определить его связь с социально-демографическими факторами и факторами, связанными с хирургическим вмешательством. **Материал и методы.** Проведено описательное поперечное исследование в течение 6 мес, с марта 2024 г. по август 2024 г., для оценки КЖ пациентов, перенесших кераторефракционную хирургию. Данные собраны с использованием стратегии неслучайной последовательной выборки с помощью валидированного и основанного на интервью инструмента анкетирования: «Влияние рефракционной коррекции на качество жизни» (QIRC). Данные проанализированы с помощью статистического пакета для социальных наук (SPSS) версии 26. **Результаты.** Установлено умеренное улучшение КЖ, при этом значимой связи между социально-демографическими факторами и КЖ пациентов после кераторефракционной хирургии не выявлено. В частности, такие переменные, как уровень образования ( $p = 0,09$ ), род занятий ( $p = 0,70$ ), возрастная группа ( $p = 0,30$ ) и пол ( $p = 1,00$ ), не показали статистически значимой связи. Кроме того, не обнаружено значимой связи между факторами, связанными с хирургическим вмешательством и КЖ, включая тип рефракционной хирургии ( $p = 0,107$ ) и продолжительность послеоперационного периода ( $p = 0,512$ ).

**Заключение.** Полученные данные указывают на умеренное улучшение КЖ лиц, перенесших кераторефракционные хирургические вмешательства. Большинство пациентов сообщили об улучшении КЖ после кераторефракционной хирургии.

**Ключевые слова:** кераторефракционная хирургия; качество жизни; лазерный кератомилез in situ (LASIK); фоторефракционная кератэктомия (PRK); трансэпителиальная фоторефракционная кератэктомия (Trans PRK); влияние коррекции рефракции на качество жизни

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In recent years, the field of ophthalmology has witnessed remarkable advancements, with keratorefractive surgery emerging as a transformative solution for various refractive errors. This innovative surgical approach, encompassing techniques such as LASIK (Laser-Assisted in Situ Keratomileusis) and PRK (Photorefractive Keratectomy), has revolutionized the way individuals experience visual correction. As the demand for enhanced visual acuity and reduced dependency on corrective eyewear continues to grow, keratorefractive surgery has gained prominence as a means to significantly improve the quality of life (QoL) for patients [1]. Surface ablation and lamellar ablation using an excimer laser are two types of refractive surgery that have been developed. However, people are hesitant to undergo such surgery due to possible complications such as unpredictable outcomes, flap-related problems, and corneal ectasia. Recent advancements have been made to make refractive surgeries safer, such as Femtosecond-LASIK (FS-LASIK) [2] and single-step Transepithelial Photorefractive Keratectomy (Trans-PRK) with SmartPulse technology. Another emerging option is small incision lenticule extraction (SMILE), which offers greater biostability and quicker recovery [3]. The Quality of Life Impact of Refractive Correction (QIRC) Questionnaire, developed and validated by K. Pesudovs et al [4], is specifically for patients with the refractive error corrected by spectacles, contact lenses, and refractive surgery. This study aims to compare the QoL of patients who underwent myopic correction with PRK, TransPRK, ReLEx SMILE or Femto-LASIK procedures, using the QIRC questionnaire [5]. QoL combines various aspects, which include physical condition, functional capabilities, psychological state, general condition, and social interaction. Various QoL questionnaires have been used to evaluate patients' satisfaction with their life conditions, their work, education, home environment, and even political beliefs in relation to their visual status. In this study we aspired to shed light on the transformative potential of keratorefractive surgery and its role in enhancing the overall well-being and QoL of patients. Ultimately, this research aims to empower both healthcare providers and patients with a deeper understanding of the intricate interplay between surgical interventions and the profound impact they have on the lives of those seeking visual correction.

## MATERIAL AND METHODS

A Descriptive Cross-Sectional Study was carried to assess QoL of patients after keratorefractive surgery in Tertiary Eye Care Hospital of District Rawalpindi, Pakistan. Study data was collected one point in time and it was primary research. This study was carried out during a period of six months from March to August 2024, after the approval of the Institutional Review Board of Al-Shifa Trust Eye Hospital with IRB no IRB/15-17. Patients who had photorefractive keratectomy surgery, transepithelial photorefractive keratectomy, femto LASIK surgery and above age 19 were included in the study. While, patients with ocular

pathologies, who had history of any ocular surgery other than keratorefractive surgery were excluded from the study. The sample size was calculated using Open Epi software. Hypothetical frequency of outcome variable was taken as 50% because population was unknown. Sample size obtained was 68. Desired sample was collected using non-probability consecutive sampling strategy, using a validated and interview-based questionnaire. QIRC tool was adapted for this study. The scoring was done using 5-point Likert scale, scores of each participant were calculated by adding up the responses. A higher score on the QIRC indicate a more positive response after refractive surgery. The questionnaire contained two major sections. First part included questions about socio-demographic characteristics while second part of the QIRC questionnaire includes a series of structured questions and scales that assess various aspects of a patient's quality of life. The consent was taken online from all the participants and only those participants were selected who agreed to take part in the research process and fulfilled the inclusion criteria. After taking informed consent, the participants were asked to fill the questionnaire on google form.

Data was analyzed using Statistical Package for Social Science (SPSS) version 26. Data of qualitative demographic variables were entered in SPSS by using codes that were assigned to each category. The data was computed and divided into categories. First category was very low QoL, ranging from 0 to 25. Second category was low QoL ranging from 26 to 50, third category was moderate QoL ranging from 51 to 75 and fourth category was high QoL ranging from 76 to 100. Data of quantitative variables were entered in numerical form. Association between type of surgery and QoL was calculated using Chi-Square test of association with fissure exact, after confirming the assumptions. After applying the test, results were interpreted and represented using tables and figures. P-value of  $\leq 0.05$  was considered statistically significant.

## RESULTS

Pie graph representing percentages of people went through different types of keratorefractive surgery which shows that majority 71% had LASIK surgery done, while 19% had gone through Trans PRK. Those who had smile and PRK were 5% (Fig. 1).

The pie graph showed score categories of QoL score of patients underwent keratorefractive surgery. There were total three categories of which first category was low QoL ranging from 26 to 50, second category was moderate QoL ranging from 51 to 75 and third category was high QoL ranging from 76 to 100 (Fig. 2). While majority 63% had moderate QoL after keratorefractive surgery. Moreover 29% had low and 8% had high QoL score. A total of 69 patients were included in this study. Among those, only 42 responded out of which 17 (40.5%) of the patients were male and 25 (59.5%) were females. While, 2 (4.8%) of them were matriculated, 6 (14.3%) were intermediate, 17 (40.5%) were graduates and 17 (40.5%) had educational level of more than

# TYPE OF REFRACTIVE SURGERY

■ Lasik ■ PRK ■ Smile ■ TransPRK

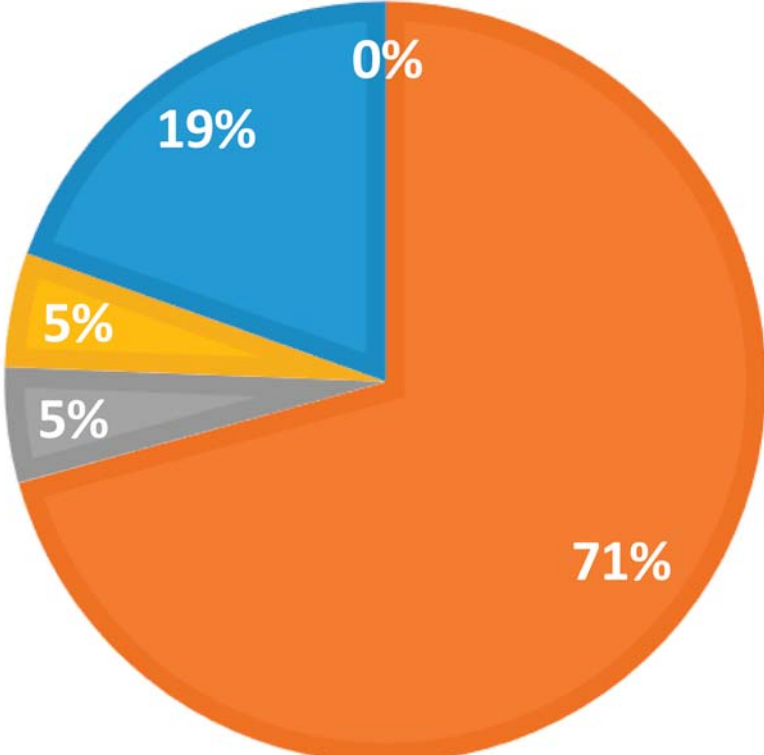


Fig. 1. Type of refractive surgery  
Рис. 1. Вид рефракционной операции

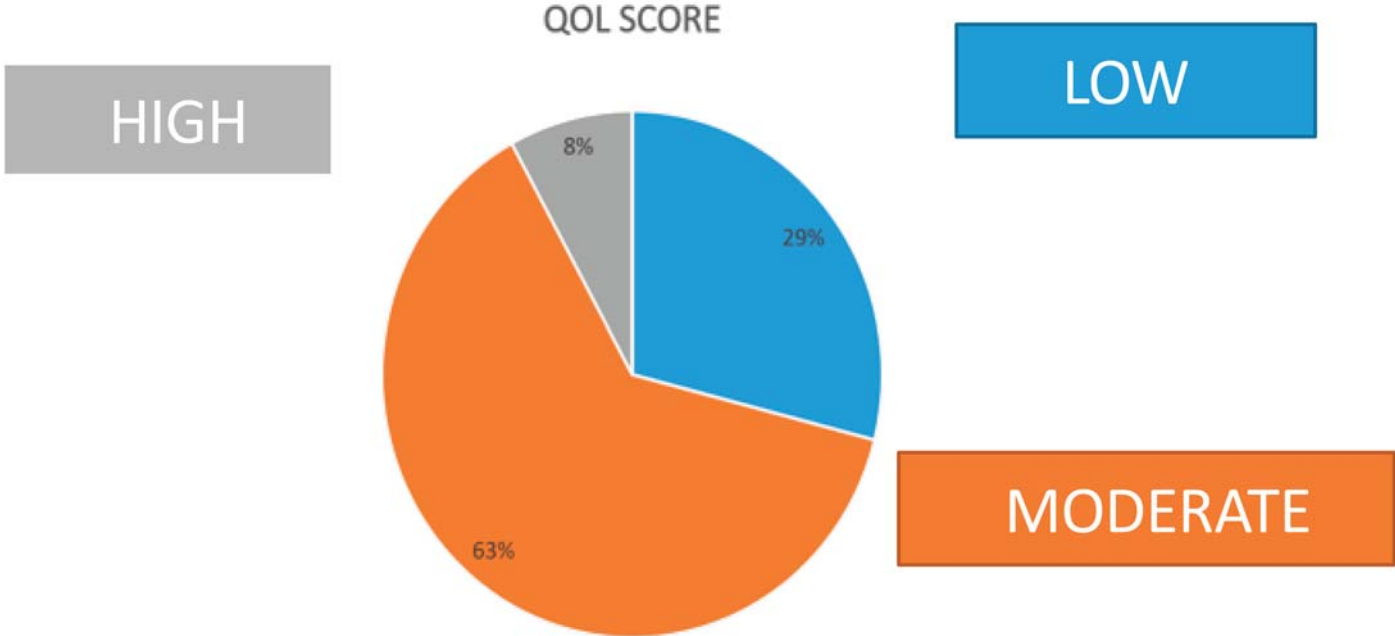


Fig. 2. Quality of life score  
Рис. 1. Оценка качества жизни

**Table 1.** Sociodemographic characteristics**Таблица 1.** Социально-демографические характеристики пациентов

Sociodemographic variables Социально-демографические параметры	Categories Категории	Frequency, n Частота, n	Percentage, % Доля, %
Gender Пол	Male Мужчины	17	40.5
	Female Женщины	25	59.5
Age group, years Возрастная группа, лет	20–25	10	23.8
	26–30	21	50
	31–35	5	12
	>35	6	14.2
Occupation Род занятий	Medical profession Медицинские работники	9	21.4
	Students Студенты	11	26.2
	Other professions Другое	22	52.4
Level of Education Уровень образования	Matric Высшее	2	4.8
	Intermediate Среднее	6	14.3
	Graduate Выпускник	17	40.5
	18 years or more 18 лет и больше	17	40.5

**Note.** n — number of patients.

**Примечание.** n — количество пациентов.

**Table 2.** Surgical characteristics**Таблица 2.** Хирургические показатели

Surgery Related Variables Хирургические показатели	Categories Категории	Frequency, n Частота, n	Percentage, % Доля, %
Type of Surgery Вид операции	PRK ФПК	2	4.8
	Trans PRK Транс ФПК	9	21.4
	LASIK ЛАСИК	29	69.0
	Smile Смайл	2	4.8
Post Surgery Duration Срок после операции	1 week to 3 months 1 нед — 3 мес	7	16.7
	>3 months to 6 months От 3 до 6 мес	9	21.4
	>6 months to 1 year От 6 мес до 1 года	18	42.9
	More than 1 year Более 1 года	8	19.0

**Note.** n — number of patients.

**Примечание.** n — количество пациентов.

18 years (Table 1). Majority about 29 (69.0%) had LASIK type of keratorefractive surgery, 9 (21.4%) had Trans PRK, 2 (4.8%) had PRK while only 2 (4.8%) had gone through Smile (Table 2). While majority 18 (42.9%) had the after surgery duration between 6 months to 1 year.

The chi-square test of association with fissure exact was applied to examine the association between sociodemographic variables, surgery related variables and QIRC questionnaire-based dependent variables. First category was low QoL ranging from 26 to 50, second category was moderate QoL ranging from 51 to 75

and third category was high QoL ranging from 76 to 100. Results for each variable are shown in Table 3.

The results of this study showed no significant association between level of education (p-value=0.09), occupation (p-value=0.70), age groups (p-value=0.30) and gender (p-value=1.00) with quality of life of patients after keratorefractive surgery.

The results showed no significant association among type of refractive surgery and QoL (p-value=0.107). Moreover, the association among post-surgery duration and QoL was also

**Table 3.** Association of sociodemographic variables with quality of life (QoL) after keratorefractive surgery  
**Таблица 3.** Связь социально-демографических переменных с качеством жизни (КЖ) после кераторефракционной хирургии

Sociodemographic Factors Социально-демографические факторы	QoL impact of refractive correction after keratorefractive surgery Влияние коррекции рефракции с помощью кераторефракционной хирургии на КЖ			
Quality of life Качество жизни	26–50 low QoL низкое КЖ	51–75 voderate QoL среднее КЖ	76–100 high QoL высокое КЖ	df (p-value)
<b>Gender Пол</b>				
Male Мужчины	5 (31.25%)	10 (62.5%)	1 (6.25%)	2 (1.00)
Female Женщины	6 (27.27%)	14 (63.63%)	2 (10%)	
<b>Level of Education Уровень образования</b>				
Matric Высшее	0 (0.0%)	0 (0.0%)	1 (100%)	6 (0.09)
Intermediate Среднее	4 (66.7%)	2 (33.3%)	0 (0.0%)	
Graduate Выпускники	4 (23.5%)	12 (70.6%)	1 (5.9%)	
18 years or more 18 лет и больше	3 (21.4%)	10 (71.4%)	1 (7.2%)	
<b>Occupation Род занятий</b>				
Medical profession Род занятий	1 (16.5%)	4 (67%)	1 (16.5%)	4 (0.70)
Students Студенты	3 (27%)	8 (73%)	0 (0.0%)	
Other professions Другие	7 (33%)	12 (57%)	2 (10%)	
<b>Age Groups Возрастные группы</b>				
20–25 years 20–25 лет	4 (40%)	6 (60%)	0 (0.0%)	6 (0.30)
26–30 years 26–30 лет	4 (22.2%)	13 (72.2%)	1 (5.6%)	
31–35 years 31–35 лет	2 (40%)	3 (60%)	0 (0.0%)	
>35 years >35 лет	1 (20%)	2 (40%)	2 (40%)	

assessed using fissure exact test which showed no significance (p-value=0.512) (Table 4).

## DISCUSSION

This cross-sectional study assessed the QoL of patients after keratorefractive surgery in tertiary eye care hospital of district Rawalpindi, Pakistan. The results of the study indicated a moderate increase in the QoL among individuals who underwent keratorefractive surgical procedures. The majority of the patients reported an improvement in their QoL following keratorefractive surgery. However, no significant association was observed among QoL and sociodemographic or surgical variables. There is a paucity in the literature regarding QoL measures following refractive correction surgery, particularly following, PRK, Trans PRK and ReLex SMILE. The US Food and Drug Administration (FDA) collaborated with the National Eye Institute and the Department of Defense to develop an online questionnaire [6], Patient-Reported Outcomes with LASIK (PROWL) survey, to assess functional limitations and patient satisfaction after LASIK surgery. They found that patient-rated satisfaction at 3 and 6 months was greater than 90%, with 1–2% of patients reporting dissatisfaction after surgery [7].

A study from L. Lesueur et al. [8], investigated predictors of QoL related to PRK, LASIK, and phakic IOL refractive procedures. They found that those patients with higher degrees of myopia had significant improvements in self-esteem and coping as compared to other patients. They found that quality of vision was directly correlated with improvement of QoL, satisfaction scores, and BCVA preoperatively and postoperatively in all patients, but interestingly no correlation was noted between visual acuity and patient satisfaction. J. Katzen et al. [9] published a paper in 2002 related to the anxiety of patients undergoing laser refractive surgery, noting that as refractive surgery has rapidly evolved and the quest to obtain faster visual recovery, fewer complications, and early stability continues, there is little in the literature that addresses the anxiety experienced by most refractive surgical patients. Unfortunately in the 16 years since that publication, minimal steps have been taken to further study the anxiety and management of anxiety or fears in refractive surgery patients. Our study concluded that patients were feeling more confident after surgery with no anxiety they felt complimented and admired as compared to before surgery when they were have to wear glasses or contact lenses. A study by P. Lazon de La Jara et al [10], stated that satisfaction with LASIK is related to visual function, preoperative

**Table 4.** Association of surgery related independent variables with quality of life (QoL) after keratorefractive surgery  
**Таблица 4.** Связь независимых переменных, связанных с хирургическим вмешательством, с качеством жизни (КЖ) после кераторефракционной хирургии

Surgery related independent variables Независимые переменные, связанные с хирургическим вмешательством	QoL impact of refractive correction after keratorefractive surgery Влияние коррекции рефракции на КЖ с помощью кераторефракционной хирургии			
Quality of life Качество жизни	26–50 low низкое	51–75 moderate среднее	76–100 high высокое	df (p-value)
Type of keratorefractive surgery Вид кераторефракционной хирургии				
PRK ФРК	1 (50%)	1 (50%)	0 (0.0%)	6 (0.107)
Trans PRK Транс ФРК	4 (50%)	2 (25%)	2 (25%)	
LASIK ЛАСИК	6 (23%)	19 (73%)	1 (4%)	
Smile Смайл	0 (0.0%)	2 (100%)	0 (0.0%)	
Post surgery duration Срок после операции				
1 week to 3 months 1 нед — 3 мес	1 (14%)	6 (86%)	0 (0.0%)	2 (0.512)
>3 months to 6 months От 3 до 6 мес	4 (67%)	2 (33%)	0 (0.0%)	
>6 months to 1 year От 6 мес до 1 года	3 (18%)	12 (71%)	2 (12%)	
More than 1 year Более 1 года	3 (37.5%)	4 (50%)	1 (12.5%)	

expectations, psychological characteristics, and uncorrected CVA achieved. An increased sense of subjective well-being, adaptability, and self-efficacy was evident after LASIK. Patients reported a more optimistic attitude to life and increase perceived QoL after surgery [11]. While in current study the quality of life was improved after surgery but no significant cause was observed.

Another study by O. Klokoval et al. [12] reported that the results of the study suggest that patients require some time to adapt to their new visual function and its impact on their daily living, delaying detectable improvements in QoL. Moreover, these results may suggest a higher satisfaction trend and long-term QoL in patients undergoing ReLEx SMILE in comparison to Femto-LASIK. Long-term results from the study demonstrated high patient satisfaction with both methods [13]. While in our study we didn't create any comparison group among type of refractive surgeries because distribution of patients to make the groups was not equal. S. Matsuguma et al. [14] stated that LASIK positively affected patients' overall subjective happiness postoperatively, and this improvement in subjective happiness was correlated with satisfaction with surgery, which could be increased by the increased QoL after LASIK surgery. Same was the case in present study which also shows that majority of the patients underwent LASIK because of fast recovery time which results in better QoL. I. Brunette et al. [15] in their study concluded that overall satisfaction after PRK for low to severe myopia was very good. These reports may support our findings that improved QoL after refractive surgery was linked to satisfaction and confidence which gives subjective happiness. Regarding gender, this study revealed that gender was not associated with the QoL after refractive surgery. Moreover there was no significant association found among post surgery duration and QoL which linked the previous studies that duration doesn't matter satisfaction matters. Evaluation and measurement of the patients' QoL based on the questionnaire represents important additional information and conclusions related to

patient satisfaction and expectations that cannot be determined from visual acuity and refractive status alone.

## CONCLUSION

In conclusion, this study explored the impact of keratorefractive surgery on the QoL of patients. The findings indicate a moderate increase in the QoL among individuals who underwent keratorefractive surgical procedures. The majority of the patients reported an improvement in their QoL following keratorefractive surgery.

## References/Литература

- Chang JY, Lin PY, Hsu CC, Liu CJ. Comparison of clinical outcomes of LASIK, Trans-PRK, and SMILE for correction of myopia. *Journal of the Chinese Medical Association*. 2022 Feb 1; 85 (2): 145–51. doi: 10.1097/JCMA.0000000000000674
- Meidani A, Tzavara C, Dimitrakaki C, Pesudovs K, Tountas Y. Femtosecond laser-assisted LASIK improves quality of life. *J Refract Surg*. 2012; 28 (5): 319–30. doi: 10.3928/1081597X-20120403-01
- Ang M, Tan D, Mehta JS. Small incision lenticule extraction (SMILE) versus laser in-situ keratomileusis (LASIK): study protocol for a randomized, non-inferiority trial. *Trials*. 2012 Dec; 13: 1–5. <https://link.springer.com/article/10.1186/1745-6215-13-75>
- Pesudovs K, Garamendi E, Elliott DB. The Quality of Life Impact of Refractive Correction (QIRC) questionnaire. *Invest Ophthalmol Vis Sci*. 2004; 45 (7): 2341–8. <https://pubmed.ncbi.nlm.nih.gov/15223816/>
- Berry S, Mangione CM, Lindblad AS, McDonnell PJ, NEI-RQL Focus Group Investigators. Development of the National Eye Institute refractive error correction quality of life questionnaire: focus groups. *Ophthalmology*. 2003 Dec 1; 110 (12): 2285–91. <https://www.sciencedirect.com/science/article/pii/S0161642003011564>
- Nichols JJ, Twa MD, Mitchell GL. Sensitivity of the National Eye Institute Refractive Error Quality of Life instrument to refractive surgery outcomes. *J Cataract Refract Surg*. 2005; 31 (12): 2313–8. <https://pubmed.ncbi.nlm.nih.gov/16473223/>
- Miller AE, McCulley JP, Bowman RW, Cavanagh HD, Wang XH. Patient satisfaction after LASIK for myopia. *CLAO J*. 2001; 27 (2): 84–8. <https://pubmed.ncbi.nlm.nih.gov/11352454/>

8. Lesueur L, Munoz-Sastre MT, Mullet E, Dabadie B, Arné JL. Les prédicteurs de qualité de vie en chirurgie réfractive [Predictors of quality of life in refractive surgery]. *J Fr Ophthalmol*. 2003 Sep; 26 (7): 699–709. <https://pubmed.ncbi.nlm.nih.gov/13130257/>
9. Katzen J. Management of anxiety in the refractive surgery patient. *Insight*. 2002; 27 (4): 103–7. <https://pubmed.ncbi.nlm.nih.gov/12520985/>
10. Lazon de La Jara P, Erickson D, Erickson P, Stapleton F. Visual and non-visual factors associated with patient satisfaction and quality of life in LASIK. *Eye*. 2011 Sep; 25 (9): 1194–201. <https://www.nature.com/articles/eye2011151>
11. Bailey MD, Mitchell GL, Dhaliwal DK, Wachler BS, Zadnik K. Patient satisfaction and visual symptoms after laser in situ keratomileusis. *Ophthalmology*. 2003 Jul 1; 110 (7): 1371–8. <https://www.sciencedirect.com/science/article/pii/S016164200300455X>
12. Klokova OA, Sakhnov SN, Geydenrikh MS, Damashauskas RO. Quality of life after refractive surgery: ReLEx SMILE vs Femto-LASIK. *Clin Ophthalmol*. 2019; 13: 561–70. <https://pubmed.ncbi.nlm.nih.gov/30988598/>
13. Han T, Xu Y, Han X, et al. Quality of life impact of refractive correction (QIRC) results three years after SMILE and FS-LASIK. *Health and Quality of Life Outcomes*. 2020 Dec; 18: 1–8. <https://link.springer.com/article/10.1186/s12955-020-01362-8>
14. Matsuguma S, Negishi K, Kawashima M, et al. Patients' satisfaction and subjective happiness after refractive surgery for myopia. *Patient preference and adherence*. 2018 Sep; 25: 1901–6. <https://www.tandfonline.com/doi/abs/10.2147/PPA.S169902>
15. Brunette I, Gresset J, Boivin JF, et al, Canadian Refractive Surgery Research Group. Functional outcome and satisfaction after photorefractive keratectomy: Part 2: survey of 690 patients. *Ophthalmology*. 2000 Sep 1; 107 (9): 1790–6. <https://www.sciencedirect.com/science/article/pii/S0161642000002670>

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