

Intraocular Lens' Own Choice by Portuguese Ophthalmologists

Escolha da Lente Intraocular pelos Oftalmologistas Portugueses

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ABSTRACT

INTRODUCTION: Cataract surgery has evolved considerably in recent years and is now considered refractive surgery. The possibility of surgically manage presbyopia surgically raised patients' expectations and their desire for glasses independence. Intraocular lens (IOL) selection is a crucial step in cataract surgery, and there is currently a wide range of options available to meet patients' needs. However, some IOLs have adverse effects that can compromise refractive outcomes, limiting their acceptance by ophthalmologists. We aimed to investigate the preferences of Portuguese ophthalmologists when selecting IOLs for their own cataract surgeries.

METHODS: A Google Forms survey was available online for Portuguese ophthalmologists for two months. The survey included 29 questions on cataract surgery, focusing on IOL selection and presbyopia management. We compared their current options for their patients with their preferences for their own cataract surgery. The responses were statistically analyzed. Statistical significance was defined as a p -value < 0.05 .

RESULTS: One hundred twenty one ophthalmologists participated in the survey: 94 seniors (77.68%) and 27 residents (22.31%). Of the ophthalmologists, 80% use premium IOLs, mainly multifocal, with a clear preponderance of corneal and refractive surgeons. Almost all corneal and refractive surgeons always ask their patients with cataract about the desired spectacle independence. Of those surveyed, 30% manage presbyopia surgically in patients without cataract, but only 11% said they would choose this procedure for themselves. A percentage of 9.01% reported using femtosecond laser-assisted cataract surgery, but nearly 30% expressed a desire to use this technology in their own cataract surgeries. All residents seek some degree of spectacle independence after cataract surgery, while most seniors prefer to be independent only for distance.

CONCLUSION: This study investigated the preferences of Portuguese ophthalmologists in the treatment of presbyopia, whether for their patients or for themselves, and showed slight differences in the responses. Surgeons were significantly less likely to manage presbyopia surgically for themselves than for their patients. Refractive surgeons and ophthalmologists with more years of experience were more likely to opt for multifocal IOLs for patients with cataract and for patients with presbyopia and without cataract. Ophthalmologists prioritize the quality of vision and avoid

risks. It is critical for cataract surgeons to weigh the factors that influence their preferences in order to effectively guide their patients choose the most appropriate solution.

KEYWORDS: Cataract Extraction; Lens Implantation, Intraocular; Lenses, Intraocular; Ophthalmologists; Portugal; Practice Patterns, Physicians; Surveys and Questionnaires.

RESUMO

INTRODUÇÃO: A cirurgia da catarata evoluiu consideravelmente nos últimos anos, sendo atualmente uma cirurgia refrativa. O surgimento da correção cirúrgica da presbiopia aumentou as expectativas dos doentes e a pretensão para independência de óculos. A seleção da lente intraocular (LIO) é um ponto-chave na cirurgia da catarata influenciando a aproximação entre os resultados cirúrgicos e as expectativas dos doentes. No entanto, algumas LIOs associam-se a efeitos indesejados que comprometem os resultados refrativos, limitando a sua aceitação entre os oftalmologistas. Pretendemos analisar as preferências dos oftalmologistas no que diz respeito à seleção da LIO na sua cirurgia de catarata.

MÉTODOS: Um inquérito *online*, Google Forms, foi disponibilizado durante dois meses aos oftalmologistas portugueses. Foram incluídas 29 perguntas relativas a cirurgia de catarata, com o objetivo comparar as escolhas para os pacientes com as suas preferências para a sua própria cirurgia de catarata. As respostas foram analisadas estatisticamente (significância estatística- $p < 0,05$).

RESULTADOS: Cento vinte um oftalmologistas responderam ao inquérito: 94 especialistas (77,68%) e 27 internos de especialidade (22,31%). Dos oftalmologistas, 80% assumiram implantar LIOs *premium*, sobretudo multifocais, com uma clara predominância dos cirurgiões de córnea e refrativa. A quase totalidade dos cirurgiões da córnea referem inquirir sempre os seus pacientes com catarata relativamente à independência de óculos. Dos inquiridos, 30% corrigem cirurgicamente a presbiopia em doentes sem catarata, mas apenas 11% assumiram escolheriam esta técnica para si. Uma percentagem de 9,01% realizam cirurgia de catarata assistida por laser de femtosegundo, contudo 30% expressaram o desejo de utilizar esta tecnologia na sua cirurgia de catarata. Todos os internos de especialidade desejam alguma independência dos óculos após a cirurgia, sendo que a maioria dos especialistas opta apenas por independência para longe.

CONCLUSÃO: Para si, os cirurgiões preferem gerir a presbiopia cirurgicamente a uma taxa muito inferior à que gere a dos seus pacientes. Os cirurgiões refrativos e os oftalmologistas com mais anos de experiência detêm maior probabilidade de escolher LIOs multifocais em doentes com catarata e em doentes com presbiopia e sem catarata. Os oftalmologistas dão prioridade à qualidade da visão e evitam riscos. É fundamental que os cirurgiões de cataratas avaliem os fatores que influenciam as suas preferências.

PALAVRAS-CHAVE: Extração de Catarata; Implante de Lente Intraocular; Inquéritos e Questionários; Lentes Intraoculares; Oftalmologistas; Padrões de Prática Médica; Portugal.

INTRODUCTION

In recent years, cataract surgery, which was originally intended to restore visual acuity, has undergone innovations and fine-tuning. Its original purpose has changed to fit into the field of refractive surgery. This ushered in the new era of refractive cataract surgery in which presbyopia became to be managed surgically.^{1,2}

Nowadays, patient expectations and demands are extremely dependent on refractive outcomes, with very little tolerance for residual error. Emmetropia is now considered a routine goal after cataract surgery.³ However, some pa-

tients desire spectacle independence for all daily activities, increasing the challenge for surgeons who must consider the concept of functional vision when selecting intraocular lenses (IOLs). Apart from newer and advanced technologies, there is a wide range of IOLs that meet the needs of patients, especially providing additional good intermediate and near vision without glasses. The problem is that some IOLs are not completely free of side effects, which limits their widespread use in all patients.

The ESCRS Clinical Trends Survey 2022 found that delegates are using presbyopia-correcting IOLs in 10% of current cataract surgeries, a steady increase since 2016.⁴

However, there remains an inexplicably wide variation in the practice of cataract surgery worldwide, which cannot be explained by economic factors alone. In the era of modern refractive surgery and with the emergence of the World College of Refractive Surgery and Visual Sciences, procedures need to be standardized to achieve better refractive outcomes worldwide.

Interestingly, we still see a transfer of responsibility and decision-making from the patient to the surgeon when it comes to IOL selection. It is not uncommon for patients to ask doctors what they would do if they were in their situation.⁵ Therefore, it is imperative to thoroughly understand the pros and cons of each IOL to achieve optimal outcomes and ensure that physicians would select the same IOL for themselves without reservation.

As far as we know, there are few studies that aim to compare the preferences of ophthalmologists in two different scenarios: in the role of the surgeon and in the role of the patient.⁶ In this work, we therefore aimed to investigate the preferences of Portuguese ophthalmologists in the selection of IOLs for their own cataract surgeries and compare them with their current practice.

METHODS

This prospective study was developed through a survey comprising a total of 29 questions, distributed to Portuguese ophthalmologists (residents and seniors) through the Google Forms platform, in collaboration with the Sociedade Portuguesa de Oftalmologia. Responses were collected from June to September 2023 and were anonymous and confidential. The questions were divided into sections covering aspects such as demographic data, the current practice of ophthalmologists in cataract surgery, especially the choice of IOL, the use of premium IOLs (advanced monofocal, extended depth of field (EDOF), multifocal or toric), refractive goals, management of presbyopia and preferences in their choice of own IOL. The questions were asked in the form of multiple-choice and open-ended responses. Informed consent was obtained before the survey began.

The primary outcome of this study was to compare ophthalmologists' current practice with their preferences for their potential cataract surgery. In addition, responses were analyzed according to the ophthalmologists' qualifications (resident or specialist), length of experience, main area of interest, number of cataract surgeries performed per month, and their refractive error.

The statistical analysis was performed with SPSS version 28.0 (IBM SPSS Statistics, September 2021). Descriptive statistics were used to determine both the frequency and the mean values of the answers given by the participants. Cut-offs of 10 years of experience and 40 surgeries per month were selected. In addition, subspecialties represented by less than 15 ophthalmologists were not included in the statistical comparisons. A *p*-value of 0.05 or less was considered statistically significant throughout the study.

RESULTS

Table 1. Demographic Data.

Type of refractive error	N, (%)
Myopia	49 (40.49%)
Emmetropia	34 (28.10%)
Hyperopia	20 (16.53%)
Myopic astigmatism	10 (8.26%)
Hyperopic astigmatism	3 (2.48%)
Mixed astigmatism	3 (2.48%)
No refractive error after refractive surgery	2 (1.65%)
Presbyopia	N, (%)
Yes	30 (24.79%)
No	91 (75.20%)
Experience (as specialist)	N, (%)
Resident	27 (22.31%)
Specialist, <5 years in practice, %	26 (21.48%)
Specialist, ≥5 years in practice, %	68 (56.19%)
Mean, years	8.50
Range, years	0-39
Subspecialty	N, %
Resident	27 (22.31%)
Cornea and refractive surgery	27 (22.31%)
Glaucoma	18 (14.87%)
Medical retina	15 (12.39%)
Vitreo-retinal surgery	13 (10.74%)
Pediatrics	13 (10.74%)
Oculoplastics	4 (3.31%)
Neuro-Ophthalmology	2 (1.65%)
Ocular Inflammation	2 (1.65%)
Practice	N (%)
Solo public practice	27 (22.31%)
Solo private practice	6 (4.96%)
Public and private practice	83 (72.73%)
Number of cataract surgeries performed monthly	N (%)
0-20	47 (38.84%)
20-40	45 (37.19%)
40-60	19 (15.70%)
60-80	4 (3.30%)
80-100	3 (2.48%)
≥100	3 (2.48%)

DEMOGRAPHIC DATA

One hundred and twenty-one participants completed the survey, 65 (53.7%) male and 56 (46.3%) female, with an average age of 37.9 ± 13.6 years (25–64). 94 were seniors

(77.68%) and 27 were residents (22.31%). Although the majority (56.19%) reported ≥ 5 years of experience, the mean experience of the entire sample was 8.5 years. The distribution by subspecialty is presented in Table 1, with cornea and refractive surgery being the most represented (22.31%). Most participants work simultaneously in the public and private systems (72.73%), and only just under 5% work only in the private system.

The refractive errors are listed in Table 1, with myopes predominating (40.49%). Reported no refractive error, 24.79% of patients, and none had an ophthalmologic condition that might limit IOL selection. Thirty participants (24.79%) had presbyopia. The predominant corrective measure was progressive lenses, which were chosen by the majority (80%) of those affected. In addition, 10% use two pairs of spectacles, 6.6% use nearsighted spectacles and 3.3% choose to use multifocal contact lenses.

All participants perform cataract surgery in their clinical practice. The majority operate on ≤ 40 cataracts (76%) per month, and 4.96% operate on ≥ 80 . Although 80% of ophthalmologists implant premium IOLs, corneal and refractive surgeons make up the majority of ophthalmologists (65%) who use multifocal IOLs. Routinely use femtosecond laser-assisted cataract surgery (FLACS), 9.01% of ophthalmologists, especially corneal and refractive surgeons and glaucoma surgeons.

OPHTHALMOLOGISTS' CURRENT PRACTICES AS SURGEONS

Most ophthalmologists routinely target emetropia with spectacle independence for distance, and 95% prefer toric IOLs to correct regular astigmatism above 1.5 diopters. Only two surgeons manage astigmatism with femtosecond assisted corneal incisions at the time of cataract surgery. One-third of participants proactively inform patients about strategies to achieve spectacle independence after cataract surgery, and nearly 65% do so only when patients ask. Seniors do it more often ($p = 0.033$) than residents and 90% of cornea and refractive surgeons always do it. Ophthalmologists with more years of experience (≥ 10 years) and those performing more surgeries per month (≥ 40 surgeries) were more likely to provide information about these strategies ($p = 0.021$ and $p = 0.019$, respectively). Responses did not differ according to the refractive error of the ophthalmologist ($p = 0.089$). Almost all participants (97.5%) considered patient personality when selecting premium IOLs.

Participants were asked about their management of presbyopia in patients without cataracts. About 30% ($n = 36$) admitted managing surgically: 94.44% of them with refractive lens exchange (RLE) and 5.55% with corneal surgery with excimer LASER. Of those performing RLE, all favor multifocal IOL implantation over other strategies. Seniors are more willing to manage presbyopia surgically ($p = 0.021$), especially those from corneal and refractive surgery ($p = 0.031$), those with ≥ 40 surgeries per month ($p = 0.021$) and those with ≥ 10 years of experience ($p = 0.04$). The decision to treat presbyopia did not differ according to the re-

fractive error of the ophthalmologists ($p = 0.071$) or whether they were presbyopes or not ($p = 0.89$).

Ophthalmologists were asked whether their practices differed between the public and private systems. Almost half (49.5%) answered in the affirmative.

OPHTHALMOLOGISTS' OWN PREFERENCES AS PATIENTS

Participants were asked about their own preferences for their potential cataract surgery. About 80% stated that they had already thought about this question in advance. The responses regarding the refractive strategy to be chosen at the time of surgery are presented in Table 2.

Table 2. Participants Refractive Strategy.

What strategy would you choose?	N, (%)
EDOF IOL to emetropia	36 (29.75%)
EDOF with monovision	19 (15.70%)
Advanced monofocal IOL to emetropia.	16 (13.22%)
Monofocal IOL to emetropia	13 (10.74%)
Multifocal IOL	18 (14.87%)
Advanced monofocal IOL with monovision	10 (8.26%)
Monofocal IOL with monovision	7 (5.78%)
EDOF with Mini-monovision	2 (1.68%)

IOL: intraocular lens; EDOF: extended depth of focus.

Almost all ophthalmologists (90%) desire spectacle independence: complete independence for 23.38%, 54.55% for distance and intermediate distance and 13% for distance only. All participants who did not want spectacle independence were seniors. The responses varied according to the age of the ophthalmologists: The mean age of those who desired spectacle independence was lower than those who did not (33.2 vs 47.3 years, $p < 0.05$). The differences by subspecialty ($p = 0.052$) and by number of surgeries per month ($p = 0.053$) were not statistically significant. Surgeons with astigmatism are more reluctant to pursue independence after cataract surgery ($p < 0.05$). All preferred

Table 3. Specific IOL chosen by the Participants.

Specific lens to achieve the desired spectacle?	N, (%)
Monofocal avançada	14 (63.64%)
TECNIS Eyhance	10
RayOne® EMV	4
EDOF	7 (31.82%)
Vivity™	4
Medicontur's ELON™	1
LuxSmart™ by Bausch + Lomb	1
TECNIS Symfony®	1
Multifocal	1 (4.54%)
TECNIS Synergy™	1

correction of regular astigmatism with toric IOLs. Participants were optionally asked which IOL they would choose for themselves (Table 3). Of the 22 ophthalmologists who responded, 45.45% chose the Vivity® IOL (Alcon).

Participants were asked about their own management of presbyopia in the absence of cataract. Almost all (89%) responded negatively, with no differences between residents and seniors ($p = 0.089$), by main area of interest ($p = 0.071$), by years of experience ($p = 0.071$) and by number of surgeries per month ($p = 0.66$). Participants who responded positively were almost all (90%) hyperopic ($p = 0.01$). Of those who would manage their presbyopia surgically, 81.6% would opt for RLE, while 15.38% would choose corneal surgery with excimer LASER. Among those preferring RLE ($n = 10$), the refractive strategy would be mini-monovision with EDOF IOLs in 33%, diffractive multifocal IOLs in 16.5% and monovision with advanced multifocal IOLs in 16.53%. Of those who preferred multifocal IOLs, all were hyperopes with presbyopia.

Sixty-six ophthalmologists would choose FLACS for themselves. Seniors with more years of experience (≥ 10 years) were more likely to choose FLACS ($p < 0.05$), and there were no differences in terms of specialty ($p = 0.89$) or number of surgeries per month ($p = 0.071$). (Tabela 4)

DISCUSSION

The aim of this work was to investigate the preferences of Portuguese ophthalmologists in IOL selection for their

own cataract surgery and compare them with their current practice, focusing on surgical correction of presbyopia. The answers were slightly different. In general, ophthalmologists are more likely to surgically manage presbyopia in patients with no cataract than in their own ($p < 0.01$). Refractive surgeons and ophthalmologists with more years of experience are more likely to choose multifocal IOLs in patients with cataract as well as in patients with presbyopia and without cataract.

Emmetropia is now considered a routine goal in cataract surgery and more than 90% of ophthalmologists state that they aim for emmetropia with spectacle independence for distance vision in their patients with cataract. However, due to the technological world we live in, the concept of functional vision has raised concerns. Nowadays, people tend to prioritize intermediate and near vision, and surgeons need to take this into account. Therefore, different IOLs have been developed to overcome this issue and nowadays good results can be achieved with different technologies. In fact, one-third of ophthalmologists reported proactively inform their cataract patients on strategies to achieve spectacle independence, which is consistent with the ESCRS survey confirming a growing trend towards the use premium IOLs.⁸⁻¹⁰

Given the usual transfer of responsibility and decision-making from the patient to the surgeon at the time of IOL selection, we decided to assess ophthalmologists' preferences in their own potential cataract surgeries. Surprisingly, 80% of ophthalmologists have already considered it and

Table 4. Reponses analyzed by subgroups.

Comparison	Subgroup(s)		p-value
Inform the patients about strategies to achieve spectacle independence after cataract surgery	Seniors	Residents	0.033
Inform the patients about strategies to achieve spectacle independence after cataract surgery	≥ 40 surgeries performed per month	< 40 surgeries performed per month	0.021
Inform the patients about strategies to achieve spectacle independence after cataract surgery	≥ 10 years of experience as a specialist	< 10 years of experience as a specialist	0.019
Inform the patients about strategies to achieve spectacle independence after cataract surgery	Refractive error		0.089
Manage presbyopia surgically in clinical practice	Seniors	Residents	0.021
Manage presbyopia surgically in clinical practice	Cornea and Refractive Subspecialty	Other subspecialties	0.031
Manage presbyopia surgically in clinical practice	≥ 40 surgeries per month	< 40 surgeries performed per month	0.021
Manage presbyopia surgically in clinical practice	≥ 10 years of experience as a specialist	< 10 years of experience as a specialist	0.040
Manage presbyopia surgically in clinical practice	Refractive error		0.071
Desired spectacle independence	Seniors	Residents	0.011
Desired spectacle independence	Subspecialties		0.052
Desired spectacle independence	≥ 40 surgeries per month	< 40 surgeries performed per month	0.043
Own management of presbyopia in the absent of cataract	Seniors	Residents	0.089
Own management of presbyopia in the absent of cataract	Subspecialties		0.071
Own management of presbyopia in the absent of cataract	≥ 10 years of experience as a specialist	< 10 years of experience as a specialist	0.072
Own management of presbyopia in the absent of cataract	≥ 40 surgeries per month	< 40 surgeries performed per month	0.066

In bold, p-values with statistical significance.

most would desire spectacle independence for distance and intermediate vision, preferring emmetropia with an EDOF IOL. Fifteen percent of ophthalmologists would rather choose a multifocal IOL. This discrepancy made us postulate if the fact of our sample being mostly represented by young people not suffering from presbyopia could justify, but older ophthalmologists were those who less frequently choose spectacle independence. In our opinion, there is not a widespread confidence in multifocal IOLs over the ophthalmological community and (this is particularly true in people with astigmatism who were even more skeptics to choose these IOLs). Multifocal IOLs are recognized to provide a full spectrum of vision and to achieve higher rates of spectacle independence.¹¹ However, these IOLs can have a negative impact on vision, as they reduce contrast sensitivity and may be associated with disturbing photic phenomena such as halos and glare, which may cause the patient to refuse second eye surgery or even request IOL explantation.^{12,13} Since patient selection for this type of IOL is one of the most thorough steps in refractive surgery, it was no surprise that older patients, ophthalmologists with more experience and those who perform more cataract surgeries per month are more likely to use them. In fact, these ophthalmologists are the ones who prefer to treat patients with a desire for spectacle independence. Our results could provide a good reference system and underline the importance of refractive surgery as a subspecialty.

In order to evaluate presbyopia management current practices, we asked ophthalmologists if they manage presbyopia surgically in patients with no cataract and if they would in their own. If so, we asked which strategy they prefer. Twenty-five percent of ophthalmologists answered affirmatively and most of them use clear lens extraction (CLE) with multifocal IOL implantation in their patients, with few performing corneal surgery. This is more evident in older ophthalmologists who have more years of experience and perform more surgeries. They also stated that they use multifocal IOLs more frequently in their cataract patients. Although in other countries, such as United Kingdom, corneal surgery is the preferred strategy to overcome presbyopia, in Portugal we still prefer CLE.¹⁴ In our opinion, there are still no implemented platforms that clearly offer robust results that would make corneal surgery the procedure of choice for presbyopia.¹¹ In addition, the option for CLE could also represent a Portuguese preference for a one-stage solution and avoid future IOL calculation problems in these patients.

Contrasting with 30% of ophthalmologists who perform surgery for presbyopia, only 11% admitted doing this for their own and most of them were hyperopic with presbyopia. Surgeons are more likely to use multifocal IOLs in their patients than in their own. Apart from emphasizing the skepticism about multifocal IOLs, this fact could only be result of growing number of patients requesting spectacle independence.

Ophthalmologists who admitted to surgically correct presbyopia for themselves were more likely to opt for an EDOF IOL than a multifocal. EDOF IOLs create a single

elongated extended focal point to increase depth of-focus and provide uncorrected distance vision like monofocal IOLs with additional good intermediate vision.¹⁵ Compared to multifocal IOLs, EDOF IOLs do not offer as good near vision, but most of them are free from disturbing photic phenomena.^{12,16-20} In our opinion, EDOF IOLs are widely accepted by the ophthalmologic community and are on their way to becoming the standard IOL in cataract surgery, but there are still some economic obstacles to overcome.

One of the latest innovations in cataract surgery has been the introduction of femtosecond laser technology, which has significantly improved the accuracy, efficacy and safety of surgery.²¹⁻²³ Femtosecond-assisted cataract surgery (FLACS) could assist the surgeon at every step and reduce the rate of intraoperative complications, with the added possibility of treating corneal astigmatism.²¹ However, FLACS surgery is not yet widespread in our country and many ophthalmologists still doubt its benefits. Our survey showed that only 9.09% of ophthalmologists use FLACS but 30% admitted using this technology in their own surgical procedures, making us to postulate if this little use of FLACS could be due to economic factors rather than ophthalmologists' unbelief in this technique.^{11,24}

Our study has some limitations. First, our sample consists mainly of young ophthalmologists, which could bias the results as they do not suffer from presbyopia. However, we found that personal factors, especially refractive error and the presence of presbyopia, usually only influence decisions about surgical treatment of presbyopia in themselves. In addition, young ophthalmologists are more likely to seek independence from spectacles than seniors. Our sample included more refractive surgeons than ophthalmologists of other areas of interest. This could falsely increase the number of ophthalmologists managing presbyopia surgically, but we believe it reflects a good referral network among Portuguese ophthalmologists. Although ophthalmologists reported to have different practices in public and private system, we did not have statistically significant results to better illustrate these differences. However, the choice of a specific IOL could be bias for their current practice: personal preferences for their patients and access to specific IOLs in their hospitals.

CONCLUSION

This study addressed the preferences for presbyopia management by Portuguese surgeons, either for their patients or for themselves, and the answers were somewhat varied. Surgeons were much less likely to manage presbyopia surgically for themselves than for their patients. Refractive surgeons and ophthalmologists with more years of experience are more likely to choose multifocal IOLs for patients with cataract and for patients with presbyopia and no cataract. Ophthalmologists tend to prioritize quality of vision and avoid risks. It is crucial for cataract surgeons to weigh the factors that influence their preferences so that they can recommend the most appropriate choice to their patients.

Escolha da Lente Intraocular pelos Oftalmologistas Portugueses

A cirurgia de catarata assistiu a uma evolução acentuada nos últimos anos e atualmente faz-se acompanhar de marcas das preocupações refrativas. A isto acresce a crescente tendência por parte dos doentes para a procura a independência de óculos nas atividades da vida diária.

A seleção da lente intraocular (LIO) é assim considerada um ponto-chave na cirurgia de catarata e o desenvolvimento de diferentes tipos de lentes permitiu uma maior aproximação entre os resultados cirúrgicos e as necessidades dos doentes. No entanto, apesar das diferentes opções de que dispomos, sabemos que em certas situações podemos deparar-nos com efeitos indesejados associados às LIO que comprometem o resultado refrativo e limitam a sua utilização por parte dos oftalmologistas.

Com a diversidade de opções disponíveis, despertou-nos a curiosidade para analisar as preferências dos próprios oftalmologistas no que diz respeito à seleção da LIO na sua eventual cirurgia de catarata, colocando-os, portanto, no papel de doente.

Neste sentido, convidamos todos os colegas a participarem num questionário on-line, anónimo e com uma duração aproximada de cinco minutos.

1. **Género**
 - a. Feminino
 - b. Masculino
2. **Idade**
3. **Erro refrativo:** miopia, hipermetropia, astigmatismo miópico, astigmatismo hipermetrópico, astigmatismo composto, sem erro refrativo, outro
4. **Presbiopia?**
 - a. Sim
 - b. Não
5. **Usa óculos?**
 - a. Sim
 - b. Não
6. **No caso de ter presbiopia, usa:**
 - a. Óculos progressivos
 - b. Dois pares
 - c. Lentes de contacto progressivas
 - d. Lentes de contacto (monovisão)
7. **Sofre de alguma patologia oftalmológica que possa limitar a escolha da sua lente a uma lente monofocal?** (as pessoas sentem menos vergonha aqui)
 - a. Sim
 - b. Não
8. **Experiência de oftalmologia (em anos):** na estatística depois estabelecemos nós os *cut-off*
9. **Interno?**
 - a. Sim
 - b. Não
10. **Subespecialidade** (temos de pôr todas e uma não aplicável por causa de internos e para as pessoas que têm mais que uma pedir que escolham a que fazem mais)
 11. **Como é distribuída a sua prática clínica:**
 - a. Público em exclusivo
 - b. Privado em exclusivo
 - c. Público e privado
 12. **Quantas facoemulsificações de cristalino por mês?** (*cut-offs* de 20 em 20 até ao >100)
 13. **Implanta lentes *premium*?** (podem responder com mais que uma)
 - a. Não
 - b. Monofocal avançada
 - c. Foco alargado (EDOF)
 - d. Multifocais
 - e. Tóricas
 14. **Utiliza femtossegundo na cirurgia de catarata?**
 - a. Sim
 - b. Não
 15. **Apresenta ao doente as alternativas que tem para independência de óculos na cirurgia de catarata?**
 - a. Nunca
 - b. Sempre
 - c. Só se o doente pedir
 16. **Tem em conta a personalidade do doente?**
 - a. Sim
 - b. Não
 17. **Em doentes sem catarata, gere a presbiopia cirurgicamente?**
 - a. Sim
 - b. Não
 18. **Em caso afirmativo, que estratégias utiliza?**
 - a. Cirurgia de cristalino transparente
 - b. Cirurgia de ablação da córnea (*excimer*)
 - c. Cirurgia de córnea (femtossegundo)

19. A sua abordagem na prática pública e privada diferem no que toca às opções que oferece para corrigir a presbiopia aquando da cirurgia de catarata?

- a. Sim
- b. Não

Caso a sua abordagem seja diferente na pública e na privada, responda de acordo com o melhor cenário possível (em termos de disponibilidade de equipamentos e de lentes) caso fosse a sua cirurgia de catarata:

20. Já alguma vez tinha pensado acerca da LIO que escolheria na sua cirurgia?

- a. Sim
- b. Não

21. Tentaria independência de óculos?

- a. Não
- b. Para longe
- c. Para longe e intermédio
- d. Independência total

22. Que estratégia escolheria?

- a. Monofocal para emetropia
- b. Monofocal avançada para emetropia
- c. Foco estendido (EDOF) para emetropia
- d. Monofocal com monovisão
- e. Monofocal avançada com monovisão
- f. Foco estendido (EDOF) com monovisão
- g. Multifocal refrativa
- h. Multifocal difrativa
- i. Mix and match
- j. Nenhuma das anteriores

23. No caso de não ser nenhuma das anteriores, qual seria a sua estratégia?

24. Escolheria alguma lente específica? Qual?

25. Se estivesse disponível, escolheria a cirurgia assistida por LASER femtossegundo?

26. No caso de ter astigmatismo, como optaria pela sua correção?

- a. Óculos após a cirurgia
- b. LIO tórica
- c. Incisões na córnea: arqueadas ou relaxantes
- d. LASER excimer após cirurgia de catarata

27. Se não tivesse catarata, optaria pela correção cirúrgica da presbiopia?

- a. Sim
- b. Não

28. Em caso afirmativo, qual a opção?

- a. Cirurgia de cristalino transparente (CLE)
- b. Cirurgia de ablação da córnea (*excimer*)
- c. Cirurgia de córnea (femtossegundo)

29. No caso de ter selecionado a opção CLE, que estratégia escolheria?

- a. Monofocal com monovisão
- b. Monofocal avançada com monovisão
- c. Foco estendido (EDOF) com monovisão
- d. Multifocal refrativa
- e. Multifocal difrativa
- f. *Mix and match*
- g. Nenhuma das anteriores

30. Escolheria alguma lente específica? Qual?

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AM and NC: Review of the scientific content of the article. All the authors approved the final version to be published.

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