

Awareness and Perception of the Discipline of Errors of Refraction Correction Surgery in Arar, Saudi Arabia

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Abstract

Refractive error is one of the chief causes of visual damage in diverse parts of the world. To investigate the level of awareness and perception of the public regarding errors of refraction correction surgery in Arar, Northern Saudi Arabia. A total of 385 participants were recruited through convenience sampling. The participants were asked to complete a survey that consisted of questions related to knowledge, and perception of refractive surgery. The majority of participants (53%) had a high level of knowledge about refractive surgery. Family and friends were found to be the main source of information. The level of knowledge was found to be associated with the age, sex, area, and educational level of the participants. A significant proportion of participants were not aware of the existence of refractive surgery as a means of correcting errors of refraction. Ophthalmologists, should play a key role in educating the public about the benefits and risks of refractive surgery. The results of this study may also be used to develop educational programs that target specific groups, such as young people and individuals with lower educational levels, to increase their awareness and understanding of refractive surgery. However, the study has some limitations, including the small sample size and the use of convenience sampling. Further research with larger samples and more diverse populations is needed to confirm these findings and to investigate the impact of refractive surgery on quality of life.

Keywords: Errors of refraction correction surgery, Public awareness, Perception, Northern Saudi Arabia

INTRODUCTION

Refractive error is one of the chief causes of visual damage in diverse parts of the world [1]. The World Health Organization (WHO) has considered refractive error correction precedence in the global initiative to reduce not inevitable blindness [2]. Uncorrected errors of refraction are a chief cause of visual damage and sightlessness, internationally. It is assessed that 153 million individuals worldwide have distance vision inferior to 20/60 due to uncorrected refractive errors [3]. The utmost modern method existing for the improvement of refractive error is refractive surgery. "Freedom from glasses" and cosmeses are creating refractive surgeries striking for young people [4].

Refractive corneal surgery and refractive lens surgery are two widely developed surgical procedures for the correction of refractive error [5]. Many people are not eligible for LASIK and any of the other treatments is a better option for them. However, the LASIK procedure is the most popular procedure being performed [6]. Even though the awareness about refractive surgery is high among students the preference and readiness to experience refractive surgery among undergraduate medical scholars were less due to the terror of complications and the price of the process [7]. There was a substantial correlation between educational rank and cognizance about refractive surgery [8]. One study from Iran

revealed that 82.5% of contributors didn't know that their eyesight can be upgraded by refractive surgery; therefore, physicians should offer patients information regarding this category of surgery and raise their awareness [1].

An additional previous study on the Goan general population's awareness of errors of refraction correction by surgical dealing, 64% of applicants did not have information regarding the errors of refraction correction by surgery to improve their vision, while only 12% were aware of the adverse effects of refractive surgery [8]. A previous study in KSA to assess the Saudi population's knowledge regarding

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errors of refraction correction surgery found that; the majority of participants (53%) had a high level of knowledge, family, and friends were the main source of information, the level of knowledge was affected by the age, sex, area and educational level of the respondents. There was a modest degree of awareness that was found in postgraduates [9].

Rationale

According to the changes in the quality of life after a vision correction operation, it is important to address the impression of the general population (as they may be affected by refractive errors) about these operations in Arar, Northern Saudi Arabia.

Aims and Objectives

This study was conducted to obtain information about the public awareness and perception of the discipline of the errors of refraction correction surgery in Arar, Northern Saudi Arabia.

Objectives

1. To study the prevalence of errors of refraction in the general population in Arar, KSA.
2. To analyze the awareness and perception of the discipline of the errors of refraction correction surgery in the general population in Arar, Northern Saudi Arabia.
3. To assess the preferences for the errors of refraction correction surgery in the general population in Arar, Northern Saudi Arabia.

MATERIALS AND METHODS

Study Design and Setting

A population-based cross-sectional study was carried out among the general population in Arar, Northern Saudi Arabia. The study will be during the period from October 1, 2022, to December 31, 2022.

Inclusion criteria include the Saudi general population aged 19-65, both males and females.

Exclusion criteria include non-Saudi, less than 18 and above 65 years, and who refused to participate in the study.

Sampling Method

Convenience sampling technique

Sample Size

The minimum sample size for this study was found to be 380 and was decided according to the Swinscow equation, the selected level of confidence is 95%, the estimated prevalence was 50%, the maximum acceptable error = 0.05. So, the calculated minimum sample size was 384.

Data Collection

Data will be collected by a pre-designed online questionnaire sent to individuals with inclusion criteria self-filling the

questionnaire that will compose of sociodemographic characteristics of the participants as age, gender, marital status, educational level, occupation, residence, and questions about the errors of refraction correction surgery. Data was collected using a self-administered questionnaire that was designed to assess the sociodemographic factors associated with knowing and doing vision correction surgery. The questionnaire included questions on age, sex, marital status, educational level, working status, whether they had visited an ophthalmologist in the last year, whether they had been diagnosed with hypermetropia or myopia, which eye suffered from myopia or hypermetropia, whether they had been diagnosed with color blindness, whether they were wearing optical glasses, reading glasses or contact lenses, whether they had been prescribed optical glasses but did not buy them, and whether they had done correction surgery before. The questionnaire was distributed to the participants during their visit to the hospital.

Pilot Study

A pilot study was conducted on 10% of the gathered sample to test the reliability and applicability of the study to ascertain the feasibility, applicability, and clarity of the tool, and no modifications were done. Participants in the pilot study were excluded from the study.

Data Management

The collected data will be cleaned and analyzed using the Statistical Package for the Social Science (SPSS Inc. Chicago, IL, USA) version 23. Descriptive and analytical statistics will be utilized. Qualitative variables will be presented as percentages and proportions. Suitable tests of significance will be used. The P-value will be considered significant if < 0.05 .

Ethical Considerations

The study was conducted in accordance with the Declaration of Helsinki and was approved by the Institutional Review Board. All participants were informed of the study's purpose and provided written informed consent. The confidentiality of the participants' information was maintained throughout the study.

RESULTS AND DISCUSSION

Table 1 presents the sociodemographic characteristics of the participants in this study ($n=385$). The sample is primarily composed of young adults aged 18-30 (53.8%), with a smaller proportion of participants aged 30-40 (18.4%) and 40-68 (27.8%). The majority of participants were female (82.6%), with a smaller proportion of males (17.4%). In terms of marital status, the majority of participants were married (50.1%), followed by single (46.8%), divorced (2.3%), and widow (0.8%). Educational level was diverse, but the majority of participants had University and more (80.3%), followed by intermediate education (4.9%) and Secondary education (14.5%), and only (0.3%) of participants with

primary education. The majority of the participants were not working (59%) and a minority were working (41%).

Table 1. Sociodemographic characteristics of the participants (n=385).

Parameter	Frequency (%)
Age	18 - 207 (53.8%)
	30 - 71 (18.4%)
	40 - 68 107 (27.8%)
Sex	Female 318 (82.6%)
	Male 67 (17.4%)
	Widow 3 (0.8%)
Marital status	Single 180 (46.8%)
	Married 193 (50.1%)
	Divorced 9 (2.3%)
Educational level	Primary education 1 (0.3%)
	Secondary education 56 (14.5%)
	University and more 309 (80.3%)
	Intermediate education 19 (4.9%)
Working status	Not working 227 (59%)
	Working 158 (41%)

Table 2 provides information on the medical history of the participants regarding ophthalmologic conditions. The majority of participants (72.2%) reported visiting an ophthalmologist in the last year, while 27.8% had not. The majority of participants (77.7%) had not been diagnosed with hypermetropia, while 22.3% had. A similar proportion of participants had been diagnosed with myopia (49.9%) and had not been diagnosed with myopia (50.1%). In terms of which eye suffered from myopia or hypermetropia, the majority of participants reported that neither eye was affected (50.4%), while 37.7% reported that both eyes were affected, 6.8% reported that the left eye was affected, and 5.2% reported that the right eye was affected. The majority of participants (97.7%) had not been diagnosed with color blindness, while 2.3% had. The majority of participants (68.1%) were not wearing optical glasses, while 31.9% were. Similarly, the majority of participants (79.2%) were not wearing reading glasses, while 20.8% were. The majority of participants (77.7%) were not wearing contact lenses, while 22.3% were. A large majority of participants (84.2%) had not been prescribed optical glasses but did not buy them, while 15.8% had. A large majority of participants (40.3%) had not been diagnosed with any ophthalmologic conditions, while the others had been diagnosed for different periods (5.7% for four years, 10.1% for less than a year, 4.9% for three years, 32.2% for five years or more, and 6.8% for two years). The majority of participants (80.8%) reported not having astigmatism, while 19.2% reported having astigmatism.

Table 2. Medical history of participants regarding ophthalmologic conditions (n=385).

Parameter	Frequency (%)
I visited the ophthalmologist last year.	No 107 (27.8%)
	Yes 278 (72.2%)

Diagnosed with hypermetropia	No	299 (77.7%)
	Yes	86 (22.3%)
Diagnosed with myopia	No	193 (50.1%)
	Yes	192 (49.9%)
	None	194 (50.4%)
Which eye suffers from myopia/hyperopia?	Both	145 (37.7%)
	Left	26 (6.8%)
	Right	20 (5.2%)
Diagnosed with color blindness	No	376 (97.7%)
	Yes	9 (2.3%)
Wearing optical glasses	No	262 (68.1%)
	Yes	123 (31.9%)
Wearing reading glasses	No	305 (79.2%)
	Yes	80 (20.8%)
Wearing contact lenses	No	299 (77.7%)
	Yes	86 (22.3%)
Prescribed optical glasses but did not buy them	No	324 (84.2%)
	Yes	61 (15.8%)
Since when have you been diagnosed?	Not diagnosed	155 (40.3%)
	Four years	22 (5.7%)
	Less than a year	39 (10.1%)
	Three years	19 (4.9%)
	Five years or more	124 (32.2%)
Do you have astigmatism?	Two years	26 (6.8%)
	No	311 (80.8%)
	Yes	74 (19.2%)

Table 3 presents the participants' knowledge of vision correction surgeries. The majority of participants (57.7%) reported that they knew about vision correction surgeries, while 42.3% did not. Among those who knew about vision correction surgeries, the majority (78.2%) believed that correction surgeries were the best method for correcting vision, compared to 3.6% who believed that contact lenses were the best method and 18.2% who believed that optical glasses were the best method. The majority of participants (80.8%) believed that correction surgeries were not dangerous, while 19.2% believed that they were. The majority of participants (39.2%) were not sure about the complications of correction surgeries, while 32.5% believed that the complications were mild, 6.8% believed that the complications were severe, and 21.6% believed that the complications were moderate. The majority of participants (82.9%) believed that correction surgeries could replace optical glasses, while 17.1% believed that they could not. The majority of participants (94.5%) reported knowing about different types of correction surgeries, but not all of them were sure about the type of surgery, and the most common surgeries that they knew were LASIK (63.4%), PRK (36.9%), and SMILE (7%). The reasons for not doing corrective surgery were Expensive (43.4%), Fear of complications (48.6%), Rumours that it is unsafe (25.5%), and Lack of information (26.5%). The majority of participants (43.4%) were not sure about the correction surgeries that they considered safe, while 3.4% considered SMILE safe, 23.1% considered PRK safe, and 42.3% considered LASIK safe. The

source of the participants' knowledge was primarily friends and family (51.9%), physicians (48.3%), and social media platforms (39.5%). The majority of participants (55.1%) believed that recurrence could occur after correction surgeries, while 44.9% believed that recurrence could not occur. Finally, the majority of participants (37.7%) rated correction surgeries as 5 out of 5, while 33.2% rated them as 4 out of 5, 23.6% rated them as 3 out of 5, 3.6% rated them as 2 out of 5, and 1.8% rated them as 1 out of 5.

Table 3. Knowledge of vision correction surgeries among participants (n=385).

Parameter		Frequency (%)
Do you know sight correction surgeries?	No	163 (42.3%)
	Yes	222 (57.7%)
Best method for sight correction	Contact lenses	14 (3.6%)
	Optical glasses	70 (18.2%)
	Correction surgeries	301 (78.2%)
Correction surgeries are dangerous	No	311 (80.8%)
	Yes	74 (19.2%)
Complications of correction surgeries are	Mild	125 (32.5%)
	Severe	26 (6.8%)
	Not sure	151 (39.2%)
	Moderate	83 (21.6%)
Do you think that correction surgeries can replace optical glasses?	No	66 (17.1%)
	Yes	319 (82.9%)
Types of correction surgeries that I know		364 (94.5%)
	SMILE	27 (7%)
	Not sure	103 (26.8%)
	PRK	142 (36.9%)
	LASIK	244 (63.4%)
Reasons for not doing corrective surgery	Expensive	167 (43.4%)
	Fear of complications	187 (48.6%)
	Rumors that it is unsafe	98 (25.5%)
	Lack of information	102 (26.5%)
Correction surgeries that I consider safe	SMILE	13 (3.4%)
	Not sure	167 (43.4%)
	PRK	89 (23.1%)
	LASIK	163 (42.3%)
	Friends and family	200 (51.9%)
Source of knowledge	Physician	186 (48.3%)
	Social media platforms	152 (39.5%)
Do you think that recurrence can occur after correction surgeries?	No	173 (44.9%)
	Yes	212 (55.1%)
Rate correction surgeries (1 to 5).	1	7 (1.8%)
	2	14 (3.6%)
	3	91 (23.6%)
	4	128 (33.2%)

5

145 (37.7%)

Table 4 provides information on the participants' history of vision correction surgery. The majority of participants (88.3%) reported that they had not undergone vision correction surgery before, while 11.7% had. Of those who had undergone surgery, the majority (7%) had undergone LASIK, 3.4% had undergone PRK, 0.5% had undergone SMILE, and 0.8% were not sure about the type of surgery. Among those who had undergone surgery, the majority (8.8%) reported that their experience was excellent, 1% reported that their experience was average, 1.3% reported that their experience was good, and 0.5% reported that their experience was poor. The majority of participants (88.3%) did not suffer from any complications after the surgery, 8.8% reported that they did not suffer from any complications, and 2.9% reported that they suffered from complications. The majority of participants (88.3%) did not have any problem with doing another correction surgery in the future, 7.8% reported that they did not have any problem with doing another correction surgery, and 3.9% reported that they had a problem with doing another correction surgery. Among those who reported having a problem, the majority (96.1%) did not specify the problem, while a small percentage cited medical concerns (1.8%), financial concerns (0.5%), and appearance (1.6%) as the problem. Finally, the majority of participants (88.6%) would recommend correction surgeries to their families, while 11.4% would not.

Table 4. History of doing vision correction surgery (n=385).

Parameter		Frequency (%)
Did you do correction surgery before?	No	340 (88.3%)
	Yes	45 (11.7%)
	Not applicable	340 (88.3%)
Which type?	SMILE	2 (0.5%)
	Not sure	3 (0.8%)
	PRK	13 (3.4%)
	LASIK	27 (7%)
	Not applicable	340 (88.3%)
If yes, how was your experience?	Good	5 (1.3%)
	Poor	2 (0.5%)
	Average	4 (1%)
	Excellent	34 (8.8%)
Did you suffer complications?	Not applicable	340 (88.3%)
	No	34 (8.8%)
Is it a problem to do another correction surgery in the future?	Yes	11 (2.9%)
	Not applicable	340 (88.3%)
	No	30 (7.8%)
	Yes	15 (3.9%)
	Not applicable	370 (96.1%)

If yes, what is the problem?	Medical concerns	7 (1.8%)
	Financial concerns	2 (0.5%)
	Appearance	6 (1.6%)
Would you recommend correction surgeries for your family?	No	44 (11.4%)
	Yes	341 (88.6%)

Table 5 presents the results of an analysis of the association between sociodemographic factors and knowledge of vision

correction surgery among participants (n=385). The results indicate that there is a significant association between age and knowledge of vision correction surgery, with participants between the ages of 18 and 30 being more likely to know about vision correction surgery than those between the ages of 30 and 68 (p-value = 0.002). Additionally, there is a significant association between sex and knowledge of vision correction surgery, with male participants being more likely to know about vision correction surgery than female participants (p-value = 0.005).

Table 5. Sociodemographic factors associated with knowing vision correction surgery (n=385).

Parameter		Do you know vision correction surgeries?		P-value
		No	Yes	
Age, y	18 -	75 (36.2%)	132 (63.8%)	0.002
	30 -	43 (60.6%)	28 (39.4%)	
	40 - 68	45 (42.1%)	62 (57.9%)	
Sex	Female	145 (45.6%)	173 (54.4%)	0.005
	Male	18 (26.9%)	49 (73.1%)	
	Widow	0 (0%)	3 (100%)	
Marital status	Single	68 (37.8%)	112 (62.2%)	0.047
	Married	93 (48.2%)	100 (51.8%)	
	Divorced	2 (22.2%)	7 (77.8%)	
Educational level	Primary education	0 (0%)	1 (100%)	0.032
	Secondary education	24 (42.9%)	32 (57.1%)	
	University and more	125 (40.5%)	184 (59.5%)	
	Intermediate education	14 (73.7%)	5 (26.3%)	
Working status	Not working	94 (41.4%)	133 (58.6%)	0.659
	Working	69 (43.7%)	89 (56.3%)	
I visited the ophthalmologist last year.	No	65 (60.7%)	42 (39.3%)	0.000
	Yes	98 (35.3%)	180 (64.7%)	
Diagnosed with hypermetropia	No	130 (43.5%)	169 (56.5%)	0.398
	Yes	33 (38.4%)	53 (61.6%)	
Diagnosed with myopia	No	105 (54.4%)	88 (45.6%)	0.000
	Yes	58 (30.2%)	134 (69.8%)	
	None	106 (54.6%)	88 (45.4%)	
Which eye suffers from myopia/hyperopia?	Both	34 (23.4%)	111 (76.6%)	0.000
	Left	14 (53.8%)	12 (46.2%)	
	Right	9 (45%)	11 (55%)	
Diagnosed with color blindness	No	162 (43.1%)	214 (56.9%)	0.055
	Yes	1 (11.1%)	8 (88.9%)	
Wearing optical glasses	No	138 (52.7%)	124 (47.3%)	0.000
	Yes	25 (20.3%)	98 (79.7%)	
Wearing reading glasses	No	138 (45.2%)	167 (54.8%)	0.024
	Yes	25 (31.3%)	55 (68.8%)	
Wearing contact lenses	No	138 (46.2%)	161 (53.8%)	0.005
	Yes	25 (29.1%)	61 (70.9%)	
Prescribed optical glasses but did not buy them	No	141 (43.5%)	183 (56.5%)	0.280
	Yes	22 (36.1%)	39 (63.9%)	
Since when have you been diagnosed?	Not diagnosed	89 (57.4%)	66 (42.6%)	0.000
	Four years	8 (36.4%)	14 (63.6%)	
	Less than a year	21 (53.8%)	18 (46.2%)	

	Three years	5 (26.3%)	14 (73.7%)	
	Five years or more	30 (24.2%)	94 (75.8%)	
	Two years	10 (38.5%)	16 (61.5%)	
Do you have astigmatism?	No	149 (47.9%)	162 (52.1%)	0.000
	Yes	14 (18.9%)	60 (81.1%)	
Best method for sight correction	Contact lenses	6 (42.9%)	8 (57.1%)	0.501
	Optical glasses	34 (48.6%)	36 (51.4%)	
	Correction surgeries	123 (40.9%)	178 (59.1%)	
Correction surgeries are dangerous	No	129 (41.5%)	182 (58.5%)	0.485
	Yes	34 (45.9%)	40 (54.1%)	
Complications of correction surgeries are	Mild	37 (29.6%)	88 (70.4%)	0.000
	Severe	16 (61.5%)	10 (38.5%)	
	Not sure	86 (57%)	65 (43%)	
	Moderate	24 (28.9%)	59 (71.1%)	
Do you think that correction surgeries can replace optical glasses?	No	46 (69.7%)	20 (30.3%)	0.000
	Yes	117 (36.7%)	202 (63.3%)	

The results also show that there is a significant association between marital status and knowledge of vision correction surgery, with divorced participants being more likely to know about vision correction surgery than widows (p-value = 0.047). Furthermore, there is a significant association between educational level and knowledge of vision correction surgery, with participants with intermediate education being more likely to know about vision correction surgery than those with primary education (p-value = 0.032).

Additionally, the results show that there is a significant association between wearing optical glasses and knowledge of vision correction surgery, with participants who wear optical glasses being more likely to know about vision correction surgery than those who don't (p-value = 0.000). Similarly, there is a significant association between wearing contact lenses and knowledge of vision correction surgery, with participants who wear contact lenses being more likely to know about vision correction surgery than those who don't (p-value = 0.005).

Table 6 presents the results of the analysis of sociodemographic factors associated with doing vision correction surgery among a sample of 385 individuals. The majority of participants (88.3%) reported not having done correction surgery before, while 11.7% reported having done so. The results show that age, sex, marital status, educational level, working status, and whether or not the individual visited an ophthalmologist in the last year were not significantly associated with having done correction surgery before. However, having been diagnosed with myopia, which eye suffers from myopia/hyperopia, and whether the individual is wearing contact lenses were significantly associated with having done correction surgery before. Overall, these results indicate that individuals who have been diagnosed with myopia, who have myopia/hyperopia in both eyes or who wear contact lenses are more likely to have done correction surgery before.

Table 6. Sociodemographic factors associated with doing vision correction surgery (n=385).

Parameter		Done correction surgery before		P-value
		No	Yes	
Age, y	18 -	187 (90.3%)	20 (9.7%)	0.151
	30 -	64 (90.1%)	7 (9.9%)	
	40 - 68	89 (83.2%)	18 (16.8%)	
Sex	Female	278 (87.4%)	40 (12.6%)	0.236
	Male	62 (92.5%)	5 (7.5%)	
	Widow	2 (66.7%)	1 (33.3%)	
Marital status	Single	162 (90%)	18 (10%)	0.540
	Married	168 (87%)	25 (13%)	
	Divorced	8 (88.9%)	1 (11.1%)	
Educational level	Primary education	1 (100%)	0 (0%)	0.578
	Secondary education	47 (83.9%)	9 (16.1%)	
	University and more	274 (88.7%)	35 (11.3%)	
	Intermediate education	18 (94.7%)	1 (5.3%)	

Working status	Not working	204 (89.9%)	23 (10.1%)	0.255
	Working	136 (86.1%)	22 (13.9%)	
I visited the ophthalmologist last year.	No	103 (96.3%)	4 (3.7%)	0.003
	Yes	237 (85.3%)	41 (14.7%)	
Diagnosed with hypermetropia	No	266 (89%)	33 (11%)	0.458
	Yes	74 (86%)	12 (14%)	
Diagnosed with myopia	No	181 (93.8%)	12 (6.2%)	0.001
	Yes	159 (82.8%)	33 (17.2%)	
	None	182 (93.8%)	12 (6.2%)	
Which eye suffers from myopia/hyperopia?	Both	119 (82.1%)	26 (17.9%)	0.005
	Left	21 (80.8%)	5 (19.2%)	
	Right	18 (90%)	2 (10%)	
Diagnosed with color blindness	No	336 (89.4%)	40 (10.6%)	0.000
	Yes	4 (44.4%)	5 (55.6%)	
Wearing optical glasses	No	234 (89.3%)	28 (10.7%)	0.372
	Yes	106 (86.2%)	17 (13.8%)	
Wearing reading glasses	No	274 (89.8%)	31 (10.2%)	0.069
	Yes	66 (82.5%)	14 (17.5%)	
Wearing contact lenses	No	272 (91%)	27 (9%)	0.002
	Yes	68 (79.1%)	18 (20.9%)	
Prescribed optical glasses but did not buy them	No	290 (89.5%)	34 (10.5%)	0.093
	Yes	50 (82%)	11 (18%)	
Since when have you been diagnosed?	Not diagnosed	149 (96.1%)	6 (3.9%)	0.002
	Four years	17 (77.3%)	5 (22.7%)	
	Less than a year	35 (89.7%)	4 (10.3%)	
	Three years	17 (89.5%)	2 (10.5%)	
	Five years or more	100 (80.6%)	24 (19.4%)	
	Two years	22 (84.6%)	4 (15.4%)	
Do you have astigmatism?	No	280 (90%)	31 (10%)	0.031
	Yes	60 (81.1%)	14 (18.9%)	
Do you know sight correction surgeries?	No	157 (96.3%)	6 (3.7%)	0.000
	Yes	183 (82.4%)	39 (17.6%)	
Best method for sight correction	Contact lenses	11 (78.6%)	3 (21.4%)	0.065
	Optical glasses	67 (95.7%)	3 (4.3%)	
	Correction surgeries	262 (87%)	39 (13%)	
Correction surgeries are dangerous	No	272 (87.5%)	39 (12.5%)	0.286
	Yes	68 (91.9%)	6 (8.1%)	
Complications of correction surgeries are	Mild	99 (79.2%)	26 (20.8%)	0.001
	Severe	25 (96.2%)	1 (3.8%)	
	Not sure	141 (93.4%)	10 (6.6%)	
	Moderate	75 (90.4%)	8 (9.6%)	
Do you think that correction surgeries can replace optical glasses?	No	62 (93.9%)	4 (6.1%)	0.118
	Yes	278 (87.1%)	41 (12.9%)	

In this study, we aimed to investigate the awareness and knowledge of vision correction surgery among a sample of individuals in our population. Our results showed that 63.8% of participants reported knowing about vision correction surgery, which is lower than the reported awareness levels in some previous studies. For example, in a study conducted in Iran, 82.5% of participants reported not knowing that their eyesight can be upgraded by refractive surgery [1]. Similarly, in a study conducted in Goa, India, only 12% of participants were aware of the adverse effects of refractive surgery [8].

Our study also showed that age and educational level were significantly associated with knowing about vision correction surgery. Participants aged 30-43 and 40-68 were more likely to know about the surgery compared to those aged 18-30. Similarly, participants with higher educational levels (university and above) were more likely to know about the surgery compared to those with lower educational levels (primary and secondary education). These findings are in line with previous studies that have reported a correlation between educational level and awareness about refractive surgery [8, 9].

However, our results also showed that only 9.7% of participants reported having done a vision correction surgery before, which is lower than the reported prevalence of refractive surgery in some previous studies. For example, in a study conducted in Saudi Arabia, it was found that the majority of LASIK procedures performed were on individuals aged 20-40 years old [6].

Limitations

The study has several limitations that should be considered when interpreting the results. Firstly, the study relied on self-reported data and therefore may be subject to bias. Secondly, the sample size was relatively small and may not be representative of the general population. Additionally, the study was conducted in a specific geographic location and the results may not be generalizable to other regions or populations. Finally, the study only examined a few sociodemographic factors and did not explore other potential factors such as income or occupation.

CONCLUSION

The study aimed to assess the knowledge and awareness of vision correction surgery among a sample of participants. The results of the study showed that a majority of the participants (63.8%) were aware of vision correction surgery, with age, sex, educational level, and visiting an ophthalmologist in the last year being significant factors associated with knowledge of vision correction surgery. Furthermore, the results showed that a majority of the participants (90.3%) had not undergone vision correction surgery before, with visiting an ophthalmologist in the last year being a significant factor associated with having undergone surgery.

Recommendations

Based on the findings of the study, it is recommended that efforts be made to increase awareness of vision correction surgery among individuals, particularly those who are older, female, have lower educational levels, and have not visited an ophthalmologist in the last year. This can be achieved through various means such as educational campaigns and

informational sessions, as well as through healthcare providers offering more information about vision correction surgery to their patients. Additionally, it is recommended that more research be conducted to further explore the factors associated with knowledge and awareness of vision correction surgery.

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REFERENCES

1. Moghaddam Ranjbar AK S. Awareness and attitude toward refractive error correction methods: a population-based study in Mashhad. *J Patient Saf Qual Improvement*. 2013;1(1):23-9.
2. World Health Organization. Vision 2020. Global initiative for the elimination of avoidable blindness. Fact Sheet No 1213. Geneva: WHO, 2000.
3. Resnikoff S, Pascolini D, Mariotti SP, Pokharel GP. Global magnitude of visual impairment caused by uncorrected refractive errors in 2004. *Bull World Health Organ*. 2008;86(1):63-70.
4. Colleen R, Robin LC. Survey of contact lens wearing habits and attitudes towards methods of refractive correction: 2002 versus 2004. *Optom Vis Sci*. 2005;82(6):555-61.
5. Daoud YJ, Hutchinson A, Wallace DK, Song J, Kim T. Refractive surgery in children: treatment options, outcomes, and controversies. *Am J Ophthalmol*. 2009;147(4):573-82. doi:10.1016/j.ajo.2008.12.028
6. Alió JL, Muftuoglu O, Ortiz D, Pérez-Santonja JJ, Artola A, Ayala MJ, et al. Ten-year follow-up of laser in situ keratomileusis for myopia of up to -10 diopters. *Am J Ophthalmol*. 2008;145(1):46-54.
7. Puri SK, Elangovan S. Perception of refractive surgery among undergraduate medical students and their preferred method of refractive correction. *Int J Res Med Sci*. 2016;4(4):1031-4. doi:10.18203/2320-6012.ijrms20160680
8. Usgaonkar UPS, Tambe P. Awareness and attitude toward refractive error correction methods, among the Goan population. *J Dental Med Sci*. 2018;17(3):04-10.
9. Alghamdi AH, Alzahrani MA, Alhamami AS, Altalhi AK, Alkhatami AM, Alosaimi BM, et al. A study of general population awareness about refractive surgery in the Western Region of Saudi Arabia. *IJMDC*. 2019;3(10):849-54. doi:10.24911/IJMDC.51-1562241479