

## Research Article

# Perception of refractive surgery among undergraduate medical students and their preferred method of refractive correction

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## ABSTRACT

**Background:** Refractive errors are a major cause of defective visual acuity in all age groups. Spectacles are the traditional and most widely used method of optical correction among all age groups. The main objective was to study the perception about refractive surgery among undergraduate medical students with refractive errors and their preferred method of refractive correction.

**Methods:** A questionnaire based study was conducted among 227 undergraduate medical students with refractive errors.

**Results:** Among 227 students, the prevalence of myopia was 89.42% and hypermetropia was 10.13%. There was one case of keratoconus (0.44%). None of them had undergone refractive surgery. 84.14% were using only spectacles for correction of refractive error. 13.21% were using contact lenses. 0.88% was using both. Among spectacle users, 71.35% were satisfied with the use of spectacles, the reasons being ease of use and maintenance. 35.41% were not satisfied with spectacles and the main reason was dependency. Among the spectacle users, 23.56% wanted to switch over to contact lenses and the main reason was cosmetic. 92.51% were aware of refractive surgery, out of which 36.66% were willing to undergo refractive surgery. 65.92% were not willing to undergo refractive surgery, the main reason being risk of complications.

**Conclusions:** The preference and willingness to undergo refractive surgery was less due to the fear of complications and the cost of the procedure. Spectacles remain the most preferred method the main reason being ease of use and it is maintenance free. Contact lenses are the next preferred method and the main reason was cosmetic.

**Keywords:** Refractive surgery, Medical students, Awareness, Preference

## INTRODUCTION

Refractive errors are a major cause of defective visual acuity in all age groups. Spectacles are the traditional and most widely used method of optical correction among all age groups.<sup>1,2</sup> Contact lens usage has also increased worldwide.<sup>3</sup> With the advent of refractive procedures, there is an anticipation as well as apprehension among the target population who are the usually men and women in their 20's to 40's regarding these procedures and their outcomes.<sup>4</sup>

We conducted a questionnaire based survey among medical students to find out prevalence of the frequency of usage of the various optical corrections, perception, knowledge and interest in refractive surgery.

### Objectives

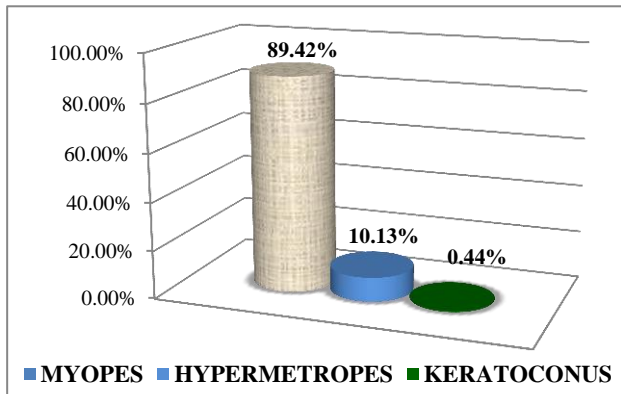
To study the preference and perception about refractive surgery among undergraduate medical students with refractive errors and their preferred method of refractive correction.

**METHODS**

A questionnaire based study was conducted among 227 undergraduate medical students with refractive errors. The age group of the students interviewed were between 18-21 years. The inclusion criteria were students with refractive errors. Students who had undergone refractive surgery and students without refractive errors were excluded from the study. The questionnaire contained twenty questions (Appendix 1). It contained questions about their refractive status and also tested their awareness about different methods available for correction of refractive errors, their preference and perception about refractive surgery and the present method which they are using.

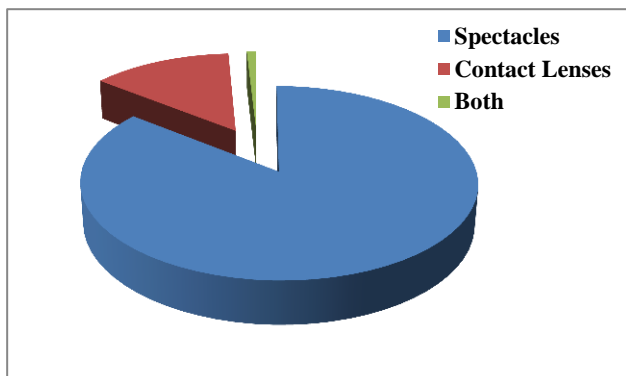
**RESULTS**

Out of 227 students the prevalence of myopia was 89.42% and hypermetropia was 10.13% and one keratoconus (0.44%) (Figure 1).



**Figure 1: Refractive errors among students.**

84.14% were using only spectacles for correction of refractive error. Only 13.21% were using contact lenses. 0.88% were using both (Figure 2).



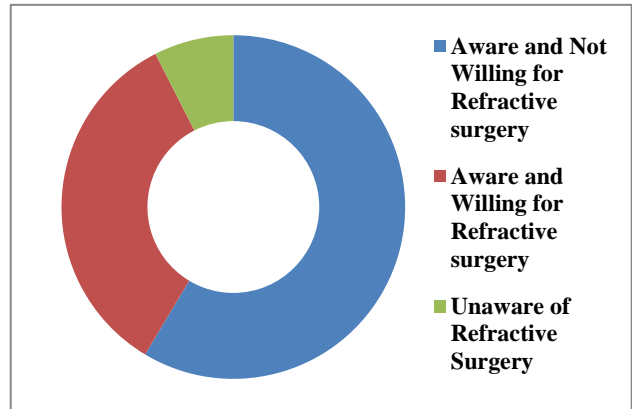
**Figure 2: Methods of Refractive correction used.**

Among spectacle users 71.35% were satisfied with the use of spectacles the main reason being ease of use and it

is maintenance free. 35.41% were not satisfied with spectacles and the main reason being dependency.

Among the spectacle users 23.56% were planning to switch over to contact lenses for cosmetic reasons.

None of them had undergone refractive surgery. 92.51% were aware of refractive surgery out of which 36.66% were willing to undergo refractive surgery (Figure 3).



**Figure 3: Awareness and willingness for refractive surgery.**

65.92% was not willing for refractive surgery the main reason being risk of complication. The cost of the procedure and the chance that spectacle may be necessary in the some people even after refractive surgery were other reasons.

**DISCUSSION**

Refractive error is also one of the leading causes of visual impairment in different parts of the world.<sup>5-12</sup> The various modalities available for refractive error correction are spectacles, contact lens and refractive surgery. Earlier spectacles were the only available method. After the introduction of contact lenses the usage has increased worldwide especially among females.<sup>13-15</sup> The most recent method available for correction of refractive error is refractive surgery.

“Freedom from glasses” and cosmesis are making refractive surgeries attractive for the young population. We undertook this study to determine how many of the target population really know about these procedures and their opinion regarding these refractive procedures, fears and apprehensions and their willingness to undergo such procedures.

All the students enrolled in this study were having some type of refractive error and were using some form of optical correction. None of our study subjects had undergone any type of refractive surgeries. We chose this population as there were most likely to think about and want to undergo refractive procedures in future. Their

knowledge about these procedures was mostly due to what they have heard from their family, friends, neighbours and ophthalmologists. Since all the students were less than 21 years of age, they had not been offered refractive surgery as an option for optical correction by their ophthalmologists till then. We wished to evaluate their responses, when they were offered the choice between refractive procedures or to continue their present method of optical correction.

In our study, among the 227 subjects, 92.51% were aware of refractive surgical procedures. 36.66% of them were willing to undergo refractive surgery. 65.92% were unwilling for the procedure. Reasons cited in descending order of frequency: fear of complication, cost of procedure and chance that spectacle may be necessary in future.

Out of the 227 subjects, 84.14% were using only spectacles for corrections of refractive error. 13.21% were using contact lenses and 0.88% was using both. From the above study it is evident that spectacle remains the most preferred method followed by contact lens and refractive surgery. Even though the awareness about refractive surgery is high among the students the willingness to undergo a surgical procedure is low mainly due to fear of complication and also due to cost of the procedure.

## CONCLUSION

The preference and willingness to undergo refractive surgery among undergraduate medical students was less due to the fear of complication and the cost of the procedure. Spectacle remains the most preferred method for refractive correction the main reason being ease of use and it is maintenance free. The next preferred method was contact lenses and the main reason was cosmetic.

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**Appendix 1: Sample Questions from the Questionnaire.**

1. What refractive error do you have? Myopia/ Hypremetropia
2. What do you use for refractive error correction? Spectacles / Contact Lenses/ Both
3. Are you comfortable with spectacles? Yes/ No  
Please mention the reason .....
4. Are you comfortable with contact lens usage? Yes/ No  
Please mention the reason .....
5. Are you aware of surgical procedure for refractive error correction? Yes/ No  
If yes, would you be willing to undergo that procedure? Yes/ No  
If no, State the reason Cost of procedure/ Fear of Complication/ Others (Specify)