

Original Research Article

Awareness and perception of contact lens usage and refractive surgery among first year undergraduate medical students

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ABSTRACT

Background: Refractive error occurs when the parallel rays of light coming from infinity are focused either in front or behind the retina, in one or both the meridians resulting in blurred image. The purpose of this study is to assess the level of awareness and perception of contact lens usage and refractive surgery among first year undergraduate medical students.

Methods: A cross sectional, observational questionnaire-based study was done on students studying in Saveetha medical college near Sriperumbudur between February 2021 to April 2021 to assess student's awareness and perception of contact lens usage and refractive surgery.

Results: Totally 250 students were studied, of which 39.76% were under 20 years, 61.85% are not contact lens users, 51.41% think that appropriate time of wearing contact lens was 8 hours per day, 64.66% think that soft contact lens should be used, 70.28% think that contact lens should be renewed every 3 months, 38.96% are not aware of refractive surgery, 54.62% think that dry eye is the complication of long term usage of contact lens, 44.18% think that contact lens are required even after surgery, 38.55% think that there will be complications even after refractive error surgery.

Conclusions: The awareness of knowledge, attitude and practice regarding contact lenses usage and refractive surgery was evaluated among the participants to identify the points of weakness and construct a proper health education among the students.

Keywords: Refractive error, Contact lens, Refractive surgery

INTRODUCTION

Refractive error is defined as a state of refraction, when the parallel rays of light coming from infinity are focused either in front or behind the layer of retina, in one or both the meridians resulting in a blurred image. The main types of refractive disorders are myopia (near vision), hypermetropia (distant vision) and astigmatism.¹ Refractive error, after cataract, is the second most common cause for blindness. Additionally, previously conducted studies have revealed that children and adults who suffer from refractive errors often do not use the best method of vision correction.²

Spectacles and contact lenses are generally the first selection in the refractive error correction for myopes.³ Contact lenses are optical devices that are used to correct eye refractive defects, both short and distant sight. These devices are convenient and cosmetically suitable and are widely used nowadays. Most users are unaware of its proper management, care and problems with the use of contact lenses such as dry eye, giant papillary conjunctivitis, corneal abrasion, corneal edema, corneal ulcer, keratitis and neovascularization.⁴

However, in the last decade, refractive surgery has found its own advocates, even among persons who have worn contact lenses. It is now the most common optional

surgery in the world.⁵ Refractive error surgery decreases myopic subjects' dependence on spectacles or contact lenses.⁶

But only people with a high level of myopia need surgical intervention. Surgery prevents the risk of retinal detachment in these patients.⁵ They generally entail three photorefractive keratectomy methods: LASIK (Laser in situ keratomileusis), LASEK (Laser sub epithelial keratomileusis), and PRK (-Photo refractive keratectomy).⁷ Popularity and success of these surgeries are related to ease of doing, favorable results of uncorrected vision, and few side effects of these surgeries.⁸

This study tried to assess the knowledge of contact lens usage and refractive error surgeries corrections among first year undergraduate MBBS students.

METHODS

This is a cross sectional questionnaire-based study conducted in Saveetha medical college and hospital from July 2021 to September 2021. 250 first year MBBS students were involved based on convenience sampling method. Inclusion criteria included all the willing participants- 250 MBBS undergraduate students. The participants were explained about the study. Participation in the study was voluntary, and the participants were ensured of their anonymity and confidentiality of recorded data. They were also informed with regard to the purpose and its conduct method. Students were asked to fill an online structured Google form questionnaires and any doubts regarding the study was explained. The questionnaire had two segments: 1) assessment of knowledge in the usage of contact lenses 2) perception on refractive surgeries among the study sample. The approval of the ethical committee was obtained prior to the commencement of the study. At the end of the survey, the data was collected and analysed using IBM SPSS statistics for windows version 23.0.

RESULT

A total of 250 students were studied with a questionnaire of which 32.53% of the participants are from the age 19, 39.76% of the participants are from the age 20 and 27.17% of the participants are from the age 21. 46.99% of them are male and 53.01% of them are female. The 61.85% of participants do not use contact lenses whereas 38.15% participants use contact lenses.

For the question “what do you think should be appropriate amount hours per day for contact lenses wear”, 51.41% of the participants responded as “less than 8 hours”, 45.38% responded as “8-12 hours”. 3.21% responded as “more than 12 hours”

For the questions “What do you think should be the type of contact lenses to be used?”, 64.66% of the participants

responded for “soft contact lenses” and 35.34% responded for “rigid gas permeable”.

For the question “Do you have knowledge about renewal of contact lenses every 3 months?”, 70.28% of the participants responded ‘Yes’ and 29.72% responded ‘No’.

For the question “Are you aware of any refractive error surgeries?”, 35.74% of the participants responded “Yes” and 25.30% responded “not sure”.

For the question “What do you think will be the complications of long-term usage of contact lenses? 54.62% of the participants responded as “dry eye”. 29.32% responded as “pain in the eye”, 8.4% responded “gritty sensation”, 4.42% responded “red eye”, 3.21% responded “blurred vision”.

For the question “Do you feel glasses or contact lenses are required even after surgery?”, 44.18% of the participants responded “Yes”, 39.76% responded “No”, 16.06% of the participants responded “Maybe”.

For the question “Are you aware that there will be complications after refractive error surgery?”, 38.55% of the participants responded ‘No’, 31.33% responded ‘Yes’, 30.12% responded ‘Maybe’.

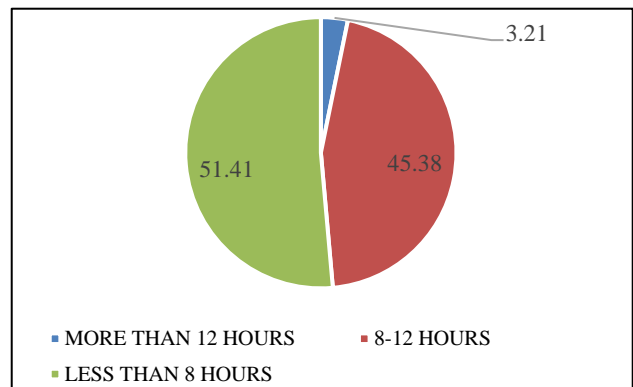


Figure 1: what do you think should be appropriate amount hours per day for contact lenses wear?

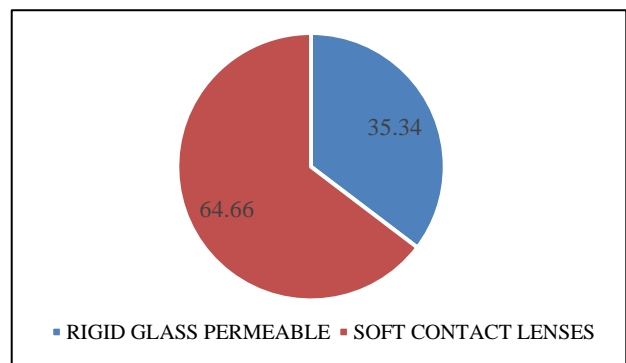


Figure 2: What do you think should be the type of contact lenses to be used?

Figure 1 represents the question “what do you think should be appropriate amount hours per day for contact lenses wear? Blue, green and sandal represents less than 8 hours, 8-12 hours and more than 12 hours respectively.

Figure 2-questions “What do you think should be type of contact lenses to be used?” Blue and green represents “rigid gas permeable” and “soft contact lenses”.

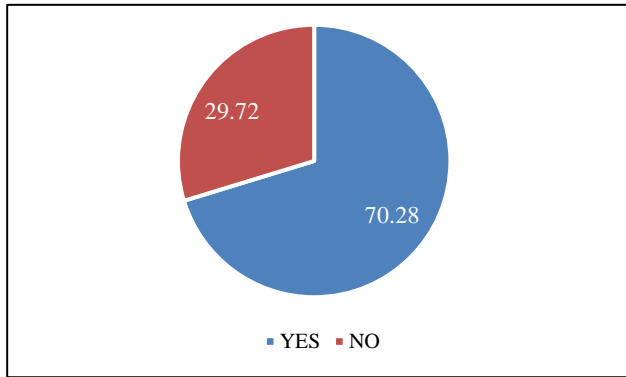


Figure 3: Do you have knowledge about renewal of contact lenses every 3 months?

Figure 3 represents the question “Do you have knowledge about renewal of contact lenses every 3 months?” Green represents yes and blue represents no.

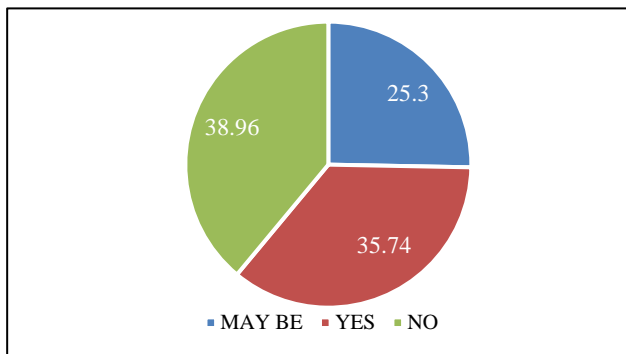


Figure 4: Are you aware of any refractive error surgeries?

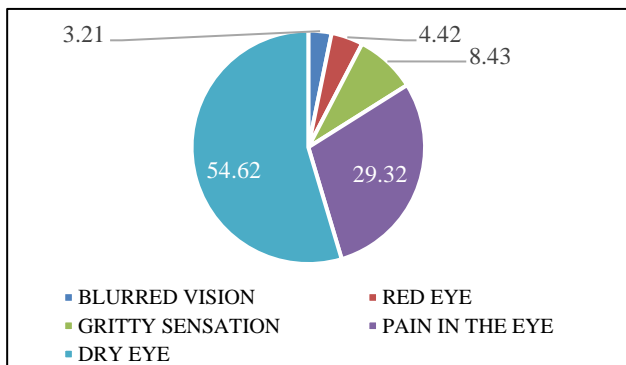


Figure 5: What do you think will be the complications of long-term usage of contact lenses?

Figure 4 represents the question “Are you aware of any refractive error surgeries?” Blue, green represents No, Yes while sandal represents Not sure.

Figure 5 represents question “What do you think will be complications of long-term usage of contact lenses? Blue, green, sandal, purple and yellow represents “dry eye”, “pain in eye”, “gritty sensation”, “red eye” and “blurred vision”.

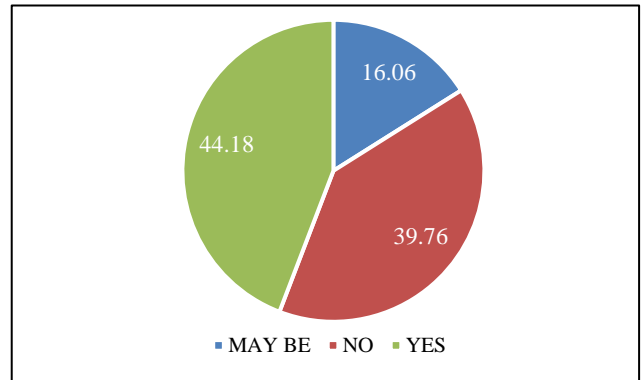


Figure 6: Do you feel glasses or contact lenses are required even after surgery?

Figure 6 represents the question “Do you feel glasses or contact lenses are required even after surgery?” Blue, green represents No, Yes while sandal represents Maybe.

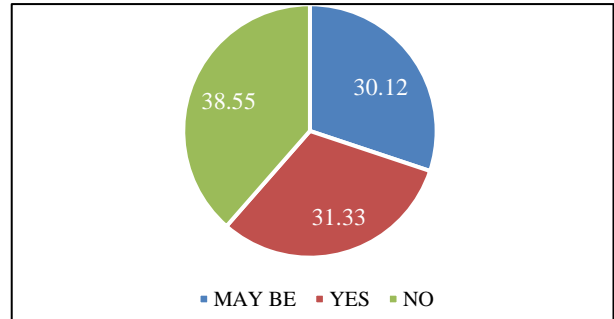


Figure 7: Are you aware that there will be complications after refractive error surgery?

Figure 7 represents the question “Are you aware that there will be complications after refractive error surgery?” Blue, green represents No, Yes while sandal represents “Maybe”.

This bar graph represents the association between sex and the appropriate amount of hours per day the participants feel the contact lenses should be used. X axis represents the sex and Y axis represents the percentage of responses. Blue, green and sandal represents less than 8 hours, 8-12 hours and more than 12 hours respectively. Most of the females feel that contact lenses should be used less than 8 hours when compared to males.

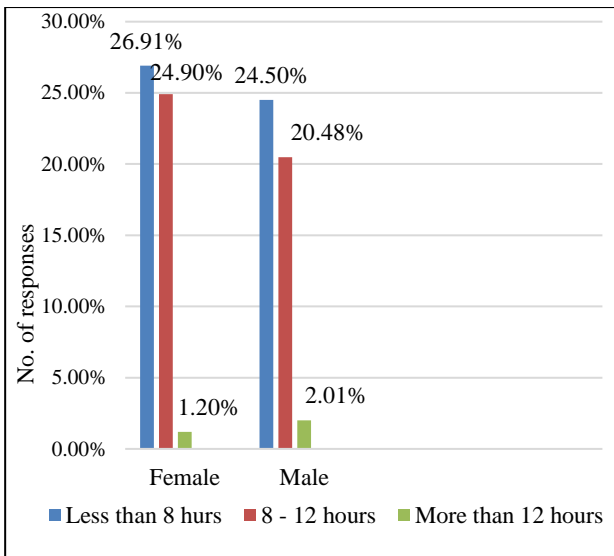


Figure 8: What do you think should be the appropriate amount of time per day to be using contact lenses?

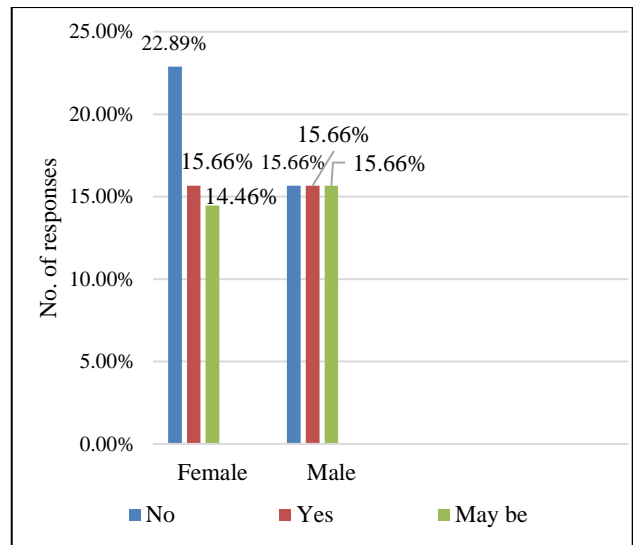


Figure 10: Are you aware there will be complications after refractive surgery?

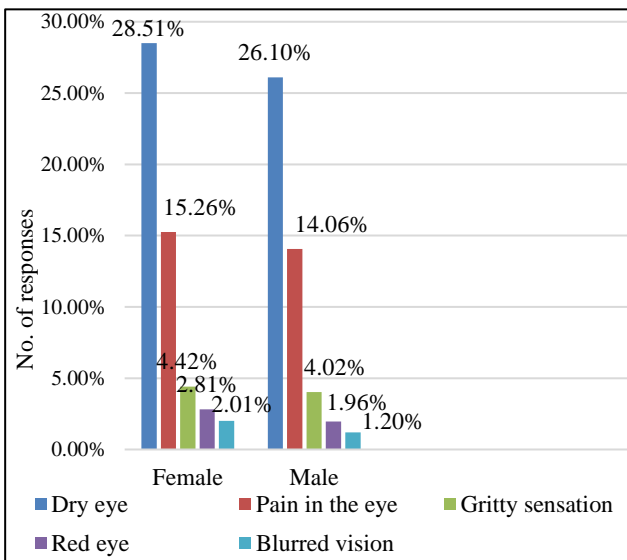


Figure 9: What do you think will be the complications of long term usage of contact lenses?

This bar graph represents the association between the sex of the participants and the complications the participants feel would get after long term usage of contact lenses. Blue, green, sandal, purple and yellow represents “dry eye”, “pain in the eye”, “gritty sensation”, “red eye” and “blurred vision”. Most of the females feel that dry eye will be the most complication that males.

This bar chart represents the level of association between the sex of the participants and whether they are aware of any complications after refractive error surgery. Blue, green and sandal represents “No”, “Yes” and “Maybe”. Most of the females has responded positively than males.

DISCUSSION

In a study conducted by Bashir et al in Saudi Arabia it showed that, more than 93 percent of students are aware that wearing contact lenses overnight is not recommended.⁹ In another study by Unnikrishnan et al more than half of the users, had slept through the night without removing their contact lenses.¹⁰ In this study 61.85% of the participants used contact lenses in which 3.21% of the participants felt that contact lenses can be used more than 12 hours.

From a study by Lam et al the vast majority of both lens wearers and non-wearers claimed to be aware of the dangers of inappropriate lens use.¹¹ Despite eye complaints such as blurring of vision and pain, less than half of contact lens wearers continue to wear contact lenses.¹² A study by De Oliviria showed that colored cosmetic contact lenses, can be purchased over-the-counter or via internet businesses.¹³ Without a prescription, such ornamental lenses are frequently used without being checked, and they can cause major vision problems. Infections by acanthamoeba has been shown to have a stronger liking for cosmetic contact lenses. This demonstrates their understanding of the risks associated with contact lens use. In this study 54.29% of the participants think dry eye is the complication of long-term usage of contact lenses.

In a study conducted by Abdulmalik et al there were 93.5% reported that they knew the refractive surgery, out of which only 32.2% expected that refractive surgeries are dangerous; 9.5% reported that the complication of the surgery is advanced.¹⁴ In this study, 31.33% of the participants responded that they were aware of the complications of refractive surgery.

Limitations

This study involves medical students with better awareness and hence it cannot be extrapolated to the general population.

CONCLUSION

This study emphasized on the awareness and perception of contact lens usage and knowledge about refractive error surgeries among the participants. The awareness of knowledge, attitude and practice regarding using contact lenses are evaluated among the participants to identify the points of weakness and construct a proper health education among the students. This study indicates a majority of students demonstrated a reasonable knowledge of contact lens wear and care techniques. This study also focused on the knowledge on refractive error surgeries. A majority of the participants showed considerable knowledge on surgeries and its complications.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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