



Awareness and Compliance in Contact Lens Wearers: Case Study

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ABSTRACT

Purpose: To assess the contact lens compliance rate by using a self-administrated validated questionnaire, the level of awareness, compliance & detectable behavioral changes, patterns or trends in contact lens users.

Methods: A questionnaire ,Cross sectional prospective study to understand the compliance in contact lens wearers, the questionnaires were distributed randomly among the users at various clinical & optical outlets. Based on various studies, and taking into account time constraints the sample size of 40 was taken. The mean age of 24 years was taken without any ocular pathology and systemic disease affecting the ocular health.

Result: The majority of 87% of the subjects studied, preferred the monthly modality and 13 % preferred conventional yearly replacement lenses. Considering average duration of wear 64% of the subjects showed non- compliance and prolonged their wearing schedules beyond 8 hours. 38% of the contact lens users were not taking optimum care of the lens cases.

A majority of 50% of the subjects rated better cosmetic appearance the most important factor, while 25% of them rated cosmetic & better vision equally important. 68% knew the availability of extended wear contact lenses that can be worn during sleep. Optical outlets are the places where the patient is more motivated for soft contact lens.

Conclusion: Cost and convenience are two factors that must be considered when educating patients about proper lens care regimens. In addition, compliance is more likely if the patient is satisfied with the medical visit.

1. Introduction

The failure of patient to comply the instruction is significant problem in any medical profession. Compliance in contact lens is very important as it changes the integrity of contact lens and the health of the eyes and ultimately determines long term success. The major areas of non-compliance were lack of hand and lens case hygiene, over wearing of contact lenses, lack of adequate follow-up care, and improper use of solutions (Ramamoorthy 2014).

In the past 40 years care and maintenance for contact lens patients is made ease from cleaning contact lenses with different solution like separate daily cleaners, separate rinsing solution and weakly protein removals to one solution like Multiple Solutions. Introduction of Daily Lenses has made care and maintenance from one solution to No solutions. Daily-disposable contact lenses offer the advantages of convenience, lack of contact lens care supplies and cleaning regimens, and the ocular health benefits associated with the

frequent replacement of contact lenses (Suchecky 2000). It was shown that patients can forget one third to one half of the instructions and advice they are given, within minutes of completion of their Consultation. A review of the literature found overall rates of non-compliance with medical regimens varies from 24.8% to 44%, and the rates reported for contact lens wearers varies from 50% to 99% (Sokol 1990). Patient's awareness regarding availability of newer developments in Contact lens and contact lens complications also determines patient's Compliance towards contact lens wear (Ramamoorthy 2014). Availability of contact lens online leads to unhealthy use of contact lens (Fogel 2008). Contact lens purchase points included doctor's office (43.0%), store (55.0%), and Internet (22.5%), with individuals purchasing at multiple venues. With regard to the FDA recommendations, those who purchased contact lenses at a doctor's office more often adhered to the recommendations, whereas those who purchased contact lenses at a store or the Internet did so less often.

Patient's education regarding care and maintenance plays an important role in compliance of patient to lens wear. Up to 80% of contact lens complications can be traced to poor patient compliance with recommended lens care guidelines (Bui 2010).

Forty-Four percent of this group wore contact lenses for therapeutic reasons; the remainder wore them for either cosmetic reasons (34%) or convenience (22%). In the study by DiMatteo, variables such as age and sex were inconclusive, but it appeared that females were more compliant than males (Ley 1982).

2. Materials and Methods

This was a Cross sectional Prospective study with a sample size of 40 students using a self-administered validated questionnaire from a study period of September 2011 to February 2012 in optical outlets, Hospitals and colleges and training institutes. Ethical board approval was obtained to study the compliance of contact lens users.

The age group of 18 to 32 was included in the study with a mean age of 24 years; a prior consent was taken and educated on the importance in conduct of this study. A routine eye examination was performed including visual acuity, Retinoscopy, subjective refraction, colour vision assessment using Ishihara, Fundus examination was performed using 90 D lens after dilatation. All ocular pathological cases were excluded in the study, Systemic disease affecting the ocular health were also excluded from the study. Collected data included demographic details, previous ocular history, and Family ocular history and general systemic history were recorded.

3. Questionnaire

- 1) From how many days/months/years are you using Contact Lens?
- 2) Which brand of Contact Lens are you using?
 - a) Bausch and Lomb
 - b) Johnson & Johnson
 - c) CIBA Vision
 - d) Others
- 3) Which types of Contact Lens are you using?
 - a) Yearly
 - b) Disposable
 - c) Don't know
- 4) After how many days do you discard your Contact Lens?
- 5) How many hours do you wear Contact Lens?
- 6) Have you ever slept overnight with you contact lenses how many days in total?
- 7) Whom would you go to if you had a red eye and thought it was due to your Contact lenses?
- 8) From where did you take your Contact Lens?
 - a) Clinic
 - b) Optical out-let
 - c) Online shopping
- 9) What is the power of Contact Lens _____ not aware
- 10) Why do you wear Contact Lens?
 - a) Cosmetic reasons
 - b) for good vision
- 11) In how many days do you clean your Contact Lens storage case?
- 12) How many times do you clean your Contact Lens?
- 13) How did you come to know of Contact Lens?
- 14) Do you know that lenses are available that can be worn during sleep?(yes/no)
- 15) Which solution do you use to clean your lenses?

4. Results

A total of 40 Indian subjects were assessed on awareness, compliance & detectable behavioral changes, patterns or trends in contact lens users. The mean age of the subjects is 24 ± 6 years. Monthly disposable contact lenses are the most preferred modality for this age group, a majority of 87% of the subjects studied, preferred the same modality and 13% preferred conventional yearly replacement lenses. Considering average duration of wear 64% of the subjects showed non-compliance and prolonged their wearing schedules beyond 8 hours. 38% of the contact lens users were not taking optimum care of the lens cases.

A majority of 50% of the subjects rated better cosmetic appearance the most important factor, while 25% of them rated cosmetic & better vision equally important & motivating for their regular use of contact lenses. 68% knew the availability of extended wear contact lenses that can be worn during sleep. More than 50% approach Ophthalmologist in case of red eye during contact lens and 33% consult prescribed optometrist in optical in case of any complication with the contact lens. Optical outlets are the places where the patient is more motivated for soft contact lens 55% then from their friends by 24%.

A majority of 87% of the subjects studied, preferred the same modality as shown in figure 1 and 13% preferred conventional yearly replacement lenses. The contact lens wearers prefer to make their purchase at optical outlets. They are very well aware of and convinced about the use of disposable Contact lenses. They mostly seek and adhere to the recommendations given by optometrists or ophthalmologists (Fogel 2008).

The study group showed a high percentage of non-compliance to the general instructions given regarding care

and maintenance. Considering average duration of wear 64% of the subjects showed non-compliance and prolonged their wearing schedules beyond 8 hours. 38% of the contact lens users were not taking optimum care of the lens cases. As per figure 3.

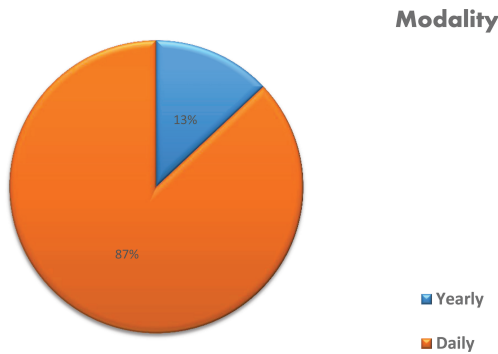


Figure 1: preferred modality of contact lens

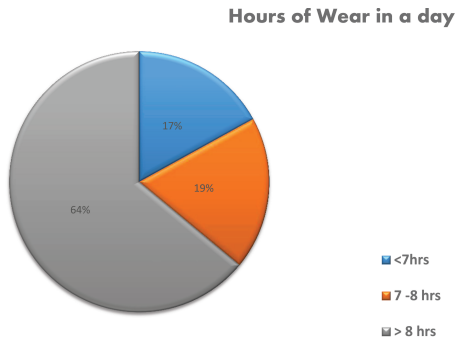


Figure 2: Hours of Wear in a day

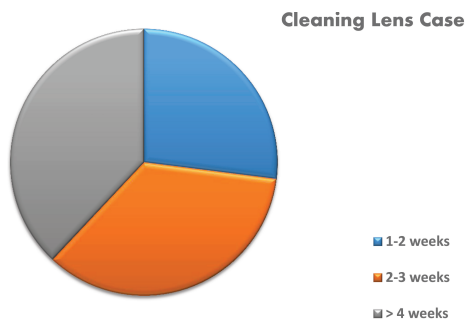


Figure 3: Lens case cleaning interval

This study reinforces the fact that better cosmetic still remain the most important & motivating factor behind contact lens use. A majority of 50% of the subjects rated better cosmetic appearance the most important factor, while 25% of them rated cosmetic & better vision equally important & motivating for their regular use of contact lenses. Although for a majority, better cosmetic is more important, they are not sure about their preferences during later years i.e.;

during presbyopic age. 58% of the respondents were found to be confused on this part.

Major reason that could be lack of awareness. The myth that still exists that contact lenses serve mostly for cosmetics. The contact lens wearers should be made to realize the better vision as compared to glasses and general reasons underlying the same. The user's education now needs to be more elaborate & informative. 68% knew the availability of extended wear contact lenses that can be worn during sleep.

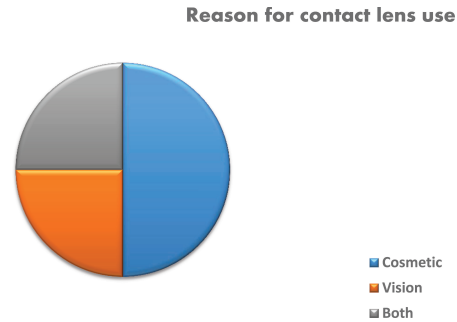


Figure 4: Reason for contact lens use

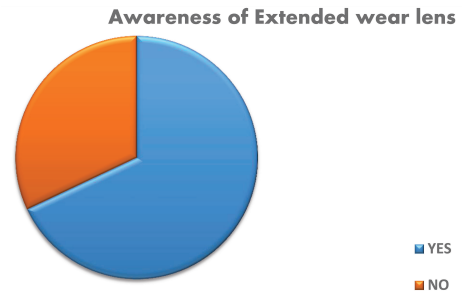


Figure 5: Awareness of extended wear lens

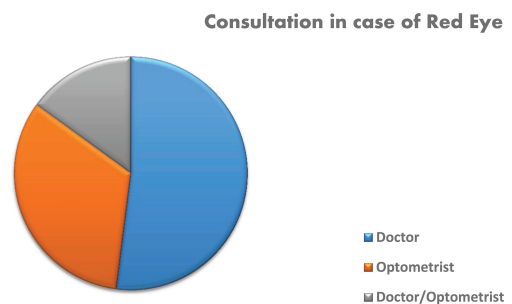


Figure 6: Consultation in case of Red Eye

More than 50% approach Ophthalmologist in case of red eye during contact lens and 33% consult prescribed optometrist in optical in case of any complication with the contact lens.

Optical is the places where the patient is more motivated for soft contact lens 55% then from their friends by 24 %. It is seen that very few patient are motivated for contact

lens from clinics because of the refractive surgeries are more preferred by the doctors. It was seen that highest level of non-compliance was seen in subjects using cosmetic contact lenses in terms of cleaning the lens and lens storage case as they used their lenses occasionally.

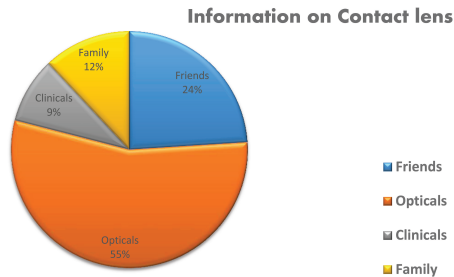


Figure 7: Information on Contact lens

5. Recommendations

This study can be conducted on a larger sample size to make the study more authentic. The study group should be followed over a period of time to make out generalized inferences and apply the outcomes for improving the present contact lens practices followed in Faridabad.

Discussion

Contact lens noncompliance was highlighted in replacement schedule, cleaning of contact lens, cleaning lens case and wearing duration. Contact lens awareness was highlighted with the sleeping with contact lens, availability of extend wear lenses, availability of multifocal contact lens and whom they approach in case any complication with contact lens. It was interesting to see that most of the subjects knew the name of the lens manufacturer (Bausch & Lomb / J&J) but not the trade name of the lens they are using, in spite of it being legibly labeled on the lens box. This could be because they see the lens box only when required for lens replacement.

In previous studies done in universities showed high compliance rate in terms of aftercare visits may be due to free contact lenses and solutions given to the volunteers involved in the study and the additional quality input by the optometrist. When comparing results between studies it is very important to consider the definition of compliance assessment technique (Donshik 2007).

Being aware does not necessarily imply complaint behavior of the contact lens user. Our study also shows a high level of awareness, based on various criteria's as mentioned before. This could also be due to the greater number of students selected in the sample taken. But for the same, the level of compliance is relatively low. This kind

of consumer behavior indicates that just creating awareness is not enough for achieving optimum compliance from him.

These outcomes indicate that the traditional contact lens practices being followed in the area of our research is not optimally successful. Also the lacks of efforts to reinforce the desired behavior from the contact lens users are an issue. Over a period of time these activities are highly neglected and this further deteriorates the compliance levels (Bui 2010).

Professional guidance is more accurate and lasts longer in the minds of the user. They should be encouraged to always visit an optometrist before repurchases and avoid middlemen, who do not provide any guidance for the same.

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